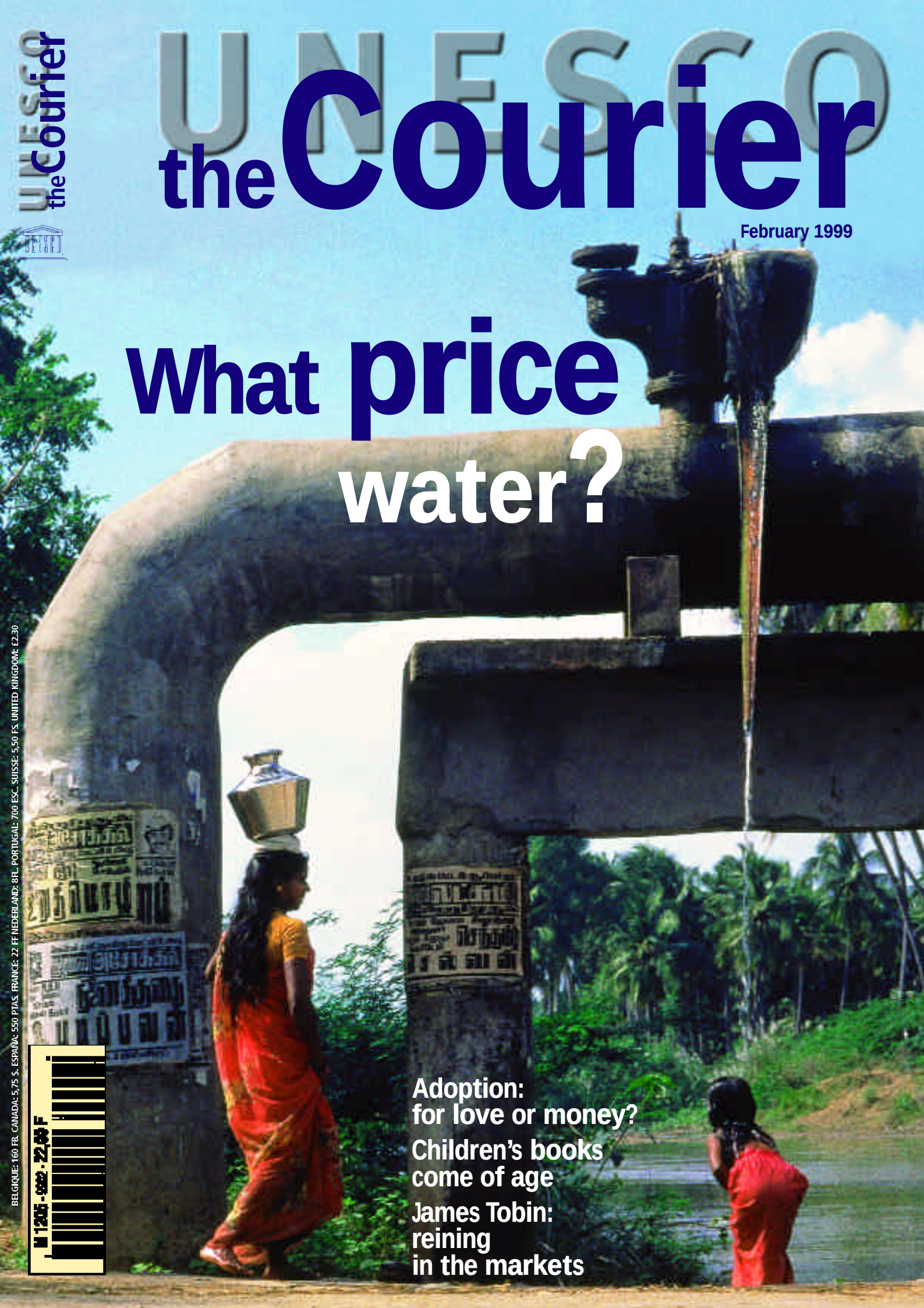
UNESCO the Courier

the Courier

February 1999

What price water?



Adoption: for love or money?

Children's books come of age

James Tobin: reining in the markets

BELGIQUE: 160 FB. CANADA: 5,75 $. ESPAÑA: 550 PTAS. FRANCE: 22 FF NEDERLAND: 8FL. PORTUGAL: 700 ESC. SUISSE: 5,50 FS. UNITED KINGDOM: £2.30

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Cover: © Jamie Drummond/Christian Aid/Still Pictures, London

UNESCO the Courier

52nd year
Published monthly in 27 languages and in Braille by the United Nations Educational, Scientific and Cultural Organization.
31, rue François Bonvin, 75732 Paris Cedex 15 France
Fax: (33) (0) 1.45.68.57.45 - (33) (0) 1.45.68.57.47
e-mail: unesco.courier@unesco.org
Internet: http://www.unesco.org/courier

Director: René Lefort
Secretary, Director's Office/Braille editions: Annie Brachet (Tel: (33) (0) 1.45.68.47.15)

Editorial staff (Paris)
Editor in Chief: John Kohut
English edition: Roy Malkin
Spanish edition: Araceli Ortiz de Urbina
French edition: Martine Jacot
Assistant to the Editor-in-Chief: Jasmina Sopova

Ethirajan Anbarasan
Sophie Boukhari
Lucía Iglesias Kuntz
Asbel López
Amy Otchet

Translation
Miguel Labarca

Art and production unit: Georges Servat
Photoengraving: Eric Frogé
Illustrations: Ariane Bailey (Tel: (33) (0) 1.45.68.46.90)
Documentation: José Banaag (Tel: (33) (0) 1.45.68.46.85)
Liaison with non-Headquarters editions and press: Solange Belin (Tel: 33 (0) 1.45.68.46.87)
Administrative Assistant: Theresa Pinck (Tel: (33) (0) 1 45.68.45.86)

Editorial Committee
René Lefort (moderator), Jérome Bindé, Milagros del Corral, Alcino Da Costa, Babacar Fall, Sue Williams

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Circulation and promotion
Fax: (33) (0) 1 45.68.57.45

Subscriptions and customer service
Michel Ravassard (Tel: (33) (0) 1.45.68.45.91)
Sales and subscription agents
Mohamed Salal El Din (Tel: (33) (0) 1 45 68 49 19)
Stock management and shipping
Pham Van Dung (Tel: (33) (0) 1.45.68.45.94)

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IMPRIMÉ EN FRANCE (Printed in France)
DÉPOT LÉGAL : C1 - FEBRUARY 1999
COMMISSION PARITAIRE N° 71844 -
Diffusé par les N.M.P.P.
The UNESCO Courier (USPS 016686) is published monthly in Paris by UNESCO. Printed in France. Periodicals postage paid at Champlain NY and additional mailing offices.
Photocomposition et photogravure: Le Courrier de l'UNESCO.
Impression: Maulde & Renou
ISSN 0041-5278 N°2-1999-OPI 99-579 A

Bihar's lawless ways

Photos by
Tiane Doan de Champassak

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The house of this Dalit ("untouchable") family was burned down by a private army working for a rich landlord.

A Dalit village.

Photos © ©Tierre Doan de Chamtcesak/Bilderberg/Studio X, Paris

Above, Dalits fish in a flooded field.

Left,harvesting and processing rice.

Right,a monument built in memory of 62 Dalits massacred in Jehenabad district on 1 December 1997.

Dire poverty and oppression are the grim facts of life for the Dalits ('untouchables') of India's most backward state

Arvind N. Das*

Travelling in the eastern Indian state of Bihar is never easy: the trains are overcrowded and the buses are ramshackle. In the south-central plains, 100 kilometres east and west of Patna, the state capital situated on the south bank of the Ganges, bad road conditions make it hard to move around. As well as having to surmount these obstacles, travellers in this region may even need passes from private parties. Those who issue the passes could be Maoist groups but most often they belong to various *senas*—landlords' caste- or class-based private armies. The law enforcement authorities are virtually absent from this region.

The village of Danwar Bihta lies in this remote area. It is 40 kilometres from the district headquarters, Ara, but the terrible road conditions make it almost inaccessible. The unbridged Sone river which flows near the village can be crossed by boat but few dare to make the crossing because of the private armies which hold sway on both its banks.

The state is very far away in Danwar Bihta; the laws enacted by the legislature are hardly even heard of and life for the poor is nasty, brutish and short. Danwar Bihta and its surrounding area have witnessed many brutal massacres in the last three decades, claiming over 1,000 lives, mostly of landless "untouchables" or Dalits. The miserable state of Danwar Bihta reflects the general lawlessness that pervades Bihar today.

Take Kusumlal, a landless labourer who barely survived the massacre that the landlords of Danwar Bihta carried out on election day in 1989. More than 20 Dalits were gunned down when they tried to exercise their franchise in the parliamentary election. Like other Dalits who survived the massacre, Kusumlal and his family had to move away from the village; their lives were clearly insecure in their traditional abode. They now live in tiny huts, built on the roadside near a primary school in a village five kilometres from Danwar Bihta. The cluster of huts, the fact that everyone belongs to the same caste, the physical distance from the landlords and the proximity to the school provide a certain degree of security.

The situation is worse for Kusumlal's wife, Dhanpatia, and their eight-year-old daughter, Punamia. Every day they have to trudge to the Sone river, two kilometres from their hut, to fetch water in earthen pots. It is not that there is any lack of water in the nearby ponds and wells. Kusumlal's family and others like them are "untouchables" and are not allowed by rest of the villagers to take water from the public pond near their huts.

Armed struggle

Kusumlal and his 11-year-old son Manjhi cannot find work in the nearby village. The landlords there will not employ them; nor will people like Kusumlal dare to return to a group of people who have left the scar of a bullet injury on his right shoulder. They have to trudge long distances in search of work, sometimes up to ten kilometres each way, to earn a meagre 30 rupees (70 cents) per day. Even this kind of work is only available for four months a year, leaving them in hunger and misery for the rest of the time.

Kusumlal's son goes to the village primary school on the days when he cannot find work, but this does not necessarily mean that he will actually get any education there. The school may be shut: the teacher, a ▷

* Indian sociologist and author of several studies on Bihar State

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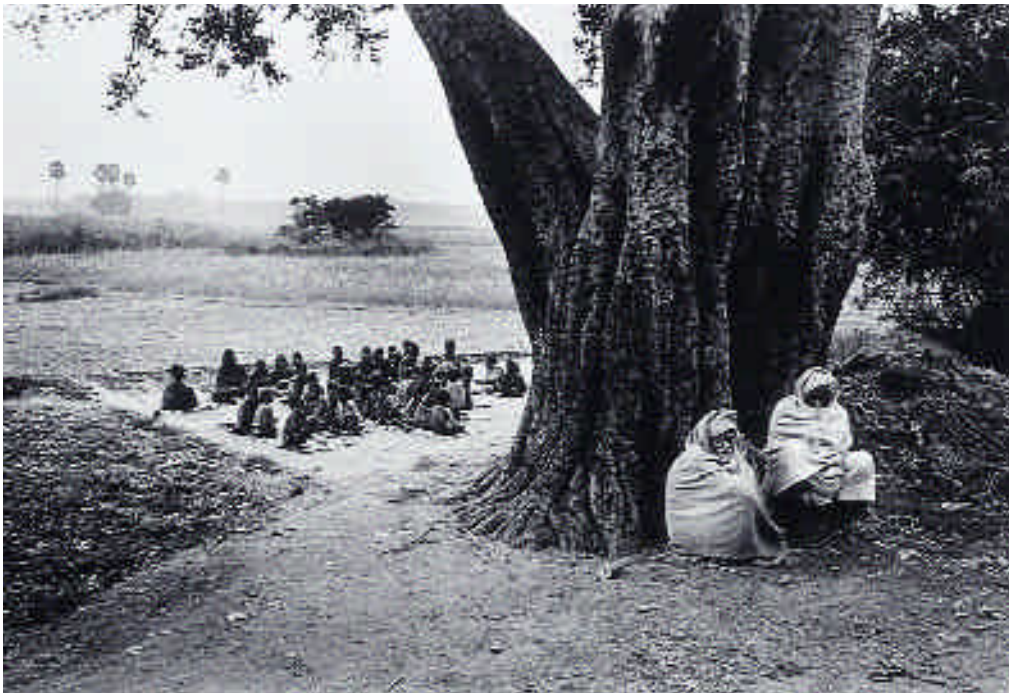

Opposite page top left and above: the laborious task of brick-making is reserved for Dalits.

Opposite page (middle photo): Dalit children drying a sari in a wheat field.

Left: many Dalit children in rural Bihar only have access to improvised outdoor classes.

Opposite page far left (below): a rich landlord who owns 500 hectares of farmland and has 12 bodyguards.

landholder from a neighbouring village, is often absent, supervising work on his land rather than teaching the Dalit children in the primary school. There is, of course, no question of Kusumlal's daughter even going to school and learning about the great wide world since a girl child is expected from an early age to busy herself with household work instead.

Kusumlal himself does not know much about the world beyond his wretched existence. He never went to school. All his life he has lived in or near Danwar Bihta. He went to Ara several times when the case regarding the Danwar Bihta firing was going on, but his visit was confined to the court buildings where he and others like him were summoned to give evidence.

Kusumlal has not given up hope. He is aware that he is not alone. Living conditions are similar for the nearly 1.5 million landless Dalit labourers in Bihar who are now getting together here and there to form peasant and labourers' organizations in a bid to improve their situation. Unable to overcome the ruthless repression by peaceful means, some Dalits like Kusumlal support militant Naxalite groups such as the People's War Group (PWG) and the Maoist Communist Centre (MCC) who believe in armed struggle to end upper-caste domination. Many more join the Communist Party of India (Marxist-Leninist), known locally as "Maaley", which seeks to combine parliamentary politics with militant peasant struggles. Together they have formed their own "armies" to fight for their rights.

Kusumlal doesn't want money. He wants to be treated with dignity. He wants the landlords to stop sexually exploiting and raping Dalit women. He wants the landlords' private army, the Ranbir Sena, to halt its massacres. Kusumlal doesn't know when these things will happen but he firmly believes they will come about one day. ■

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Bihar: a place of **inequalities** and **tensions**

Bihar is India's second most populous state after Uttar Pradesh. Half the size of Germany, it has a larger population than Germany and Austria combined. Bihar, whose name is derived from the sanskrit word vihara (monastery), is studded with Buddhist monuments and historical sites, one of the most important being Bodh Gaya where Lord Buddha attained enlightenment 2,500 years ago.

In stark contrast to its glorious past, Bihar today is in the throes of economic chaos and unprecedented social tension. It has the dubious distinction of being one of India's most crime-ridden states, with 14 murders a day and one kidnapping every four hours. As in other Indian states, people in Bihar are divided on the age-old caste system in which the Dalits or untouchables are at the bottom of the ladder. Dalits constitute around 15 per cent of the state's population but they hold less than two per cent of the cultivated land. The social tensions are largely due to agrarian inequality, and often result in clashes between landed gentry and landless Dalit labourers. Active Dalit resistance in Bihar started in the 1960s, when landless labourers aligned themselves with Maoist Naxalite groups. The landlords and other upper-caste people formed their own private armies to assert their supremacy. Women, children and old people are often the victims of these caste-based massacres. The state administration, irrespective of which party is in power, is powerless to control these clashes which have been going on for the last three decades.

Bihar is India's most backward state, with the lowest literacy rate and per capita income. On the other hand,it is the richest state in terms of mineral resources, accounting for 40 per cent of India's total production.Rabri Devi is the present chief minister, heading a centrist Rashtriya Janata Dal (National People's Party) government. ■

Total area: 173,877 sq.km
Population:90 million
Literacy rate:38 per cent
State capital: Patna

Daring, caring and **sharing**

Unesco/Ines Forbes

Federico Mayor

This collective resource is becoming rarer because it is being overexploited by a consumerist and pollution-generating humanity. The warning signs are clear: falling water tables, shrinking rivers and lakes, widespread pollution, creeping desertification.

The threat of fresh water scarcity is a major risk. On the one hand, resources are not unlimited; they are finite and fragile. On the other, total world demand for water has risen sevenfold in the course of this century, while world population has increased threefold over the same period. Increased demand goes hand in hand with rising living standards resulting from socio-economic development. This is bad news insofar as demand will continue to escalate as living standards hopefully improve. But it is good news insofar as this level of development increases our capacity to make more economical use of water.

This collective resource is becoming rarer because it is being overexploited by a consumerist and pollution-generating humanity. The warning signs are clear: falling water tables, shrinking rivers and lakes, widespread pollution, creeping desertification. Water shortage is exacting a growing human toll in terms of malnutrition, disease, abandonment of rural areas, and swollen urban settlements. Prophets of doom predict that water, even more than oil or land, may soon foment bitter conflicts.

But if the outlook is gloomy, crisis is not yet inevitable, on condition that we do three things: put technology back in its place; recognize both the possibilities and the limitations of the market; and above all give priority to a new "water ethic".

Technology can only provide part of the answer. The water crisis is not an isolated phenomenon. It is an important but specific aspect of the general crisis of a development model based on a concept of growth which is obsessed with macro-economics and technology and neglects social, human and environmental factors. We should firmly oppose so-called miracle solutions. In any case, where in today's economic climate are we going to find the means to build dams, pipe systems, channels and reservoirs, or to finance the "ecojobs" needed for scientific management of agriculture and the environment?

There is also growing pressure to recognize that water should become a commodity like any other. In this perspective the market could be used to regulate water demand, both to reduce overall consumption and to arbitrate between users, within countries and internationally. This approach certainly has a role to play in enhancing the value of an increasingly precious resource and thereby reducing waste. But if market mechanisms were to rule unchecked, what would happen to the role of the public authorities? How could they exercise their responsibility for social justice, especially towards all those who still have no access to drinking water?

Technology and the market can be precious allies in getting to grips with the looming water crisis, but ultimately the response to it must rest on ethical and cultural foundations. There should be three imperatives: daring, caring and sharing. Daring, because postponing urgent decisions on the grounds that all the data are not available would be tantamount to letting demand grow until it reaches its natural and economic limit. Caring, because over a billion people still have no access to drinking water. Sharing because the only alternative to worsening conflict rests on determination to show a sense of equity and community. This is not a utopian ideal: in human history, water has been a greater force for unity than for division. ■

The **zero** option for

The world may be producing too much waste. It is also spawning plenty of imaginative ideas about how to handle it

The world is groaning under the weight of the rubbish people produce and things are getting worse. Nobody knows exactly how much waste there is in the Third World, but the Organization for Economic Cooperation and Development (OECD) has produced figures for its 29 member-states, which are mostly rich countries.

Between 1980 and 1995, it says, the total amount of municipal waste increased from 347 to 484 million tonnes—238 million in the United States and 153 million in the 15 countries of the European Union.

Industries alone in the OECD countries produced 1.5 billion tonnes of waste in 1995. The French—top of the agricultural and forest waste league with 377 million tonnes compared with the Greeks' 90 million—throw out 17 billion plastic bags every year. They junk 1.7 million vehicles and discard 20 million tyres. The Germans throw away 4.42 million tons of packaging—a trifle compared with the Americans' 64 million tonnes. The US is also top where computers are concerned, scrapping 10 million every year.

Forty million tonnes of recyclable waste were exported by OECD countries in 1990. "To reduce flows of materials, we need a revolution in how we think about them—a transition as profound as the movement from the Stone Age to the Bronze Age," says John Young, a senior researcher at the Worldwatch Institute in Washington. "This revolution, however, will centre not on a new material, but on how to use existing materials far more efficiently."

What is waste?

There are several definitions. Belgium, for example, calls it "any substance or object which the holder discards or intends or is required to discard". As a result the official quantity of waste in Belgium is high—645,636 tonnes exported in 1991, compared with only 21,126 exported by France and 108,466 tonnes by the US.

Mexico's definition of waste is very complicated: "Any material . . . whose quality does not permit its use again in the same process that generated it". In Switzerland, "wastes are movable things which the owner discards or whose disposal is in the public interest". In South Korea, waste means "any matter . . . which becomes unnecessary for human living or business activities".

The OECD notes an extra problem to do with differentiating between the word "discard" in the definitions—meaning to get rid of, scrap or abandon—and "disposal", which means destruction, removal, emptying or dumping. These are quite varied solutions.

The amount of waste exported does not necessarily match the amount imported, since the definition of such material can change when it crosses a national border. If used tyres are exported as waste to a country with laxer rules, they become an ordinary commercial item when imported there.

So tracking the international movement of waste is a nightmare. Especially as the cost of recycling and dumping varies from country to country. The cheapest disposal method, if you manage to dodge customs, is still to smuggle in, say, used tyres and dump them on waste ground without regard to the environment.

"The culture of consumption that has spread since mid-century from North America to Western Europe, Japan and a wealthy few in developing countries has brought with it an unprecedented appetite for physical goods—and the materials from which they are made," says Young. "In the United States, the average person accounts for the use of some 540 tonnes of construction materials, 18 tonnes of paper, 23 of wood, 16 of metals and 32 tonnes of organic chemicals in the course of a lifetime."

So it is vital to reduce consumption of raw materials and minimize waste production.

The three Rs—reduce, re-use, recycle

Most industrialized countries have passed laws about waste based on the three Rs—reduce, re-use and recycle. The

'The culture of consumption that has spread since mid-century from North America to Western Europe, Japan and a wealthy few in developing countries has brought with it an unprecedented appetite for physical goods and the materials from which they are made'

A reforestation and resin extraction project in Colombia.

© Bernal/ZERI, Colombia

waste

© Bernal/ZERI, Colombia

These earthworms produce enzymes that can be used in soap manufacture.

© Bernal/ZERI, Colombia

Mushrooms grown on agro-industrial waste can create jobs.

laws cover several sectors: industry and packaging, household and organic waste, paper, vehicle batteries, tyres and oil and other lubricants. The goal is to cut the amount at source, especially where hazardous substances are concerned, such as chlorofluorocarbons (CFCs) which attack the ozone layer. The latter are hard to collect and are gradually being taken off the market.

Tyres can be re-used to make anti-noise barriers. Paper can be recycled. But some waste cannot be dealt with by the three Rs and has to be incinerated—which is criticized as polluting the air with high levels of dioxin gas near the incinerators—or dumped, which is tolerated less and less because of pollution discharges and the accompanying bad smells.

To tackle this worrying situation which is very hard to remedy, Belgian economist Gunter Pauli in 1994 launched the Zero Emissions Research Initiative (ZERI) which in effect means "zero waste". The scheme is backed by the Tokyo-based UN University—a network of universities particularly concerned about the environment—and involves trying to save everything in industry and agriculture, treating all waste as raw material and avoiding pollution at the same time as making profits and creating jobs. Quite a few projects were presented at ZERI's fourth congress in Windhoek, Namibia, in October 1998, attended by 250 delegates from five continents. Here are three of them.

Composting a pesky plant

Originally from South America, the water hyacinth (*Eichhornia crassipes*) was introduced elsewhere either accidentally or deliberately because of its beauty and has now made itself at home all over the tropics.

In Africa, it was first spotted in the Nile Delta, then in the South African province of Natal, and then in 1937 in Southern Rhodesia (now Zimbabwe). It began spreading across the continent in earnest in the 1950s, jumping from lakes to rivers,from dams to marshes,and from ponds to irrigation canals. But the beautiful stranger is a killer.

It suffocates native plants, fish and amphibious creatures by draining oxygen from the water. It hampers river transport—and so trade and tourism—and especially fishing when it gets tangled

1998, **hottest year** of the century

According to the World Meteorological Organization (WMO),1998 will go down in history as the hottest year of the twentieth century. The earth's average surface temperature increased by 0.58°C between 1961 and 1990. Temperatures have been rising steadily since 1860, the year records began to be kept, and today they are 0.7°C higher than they were at the end of the nineteenth century. Last year edged out 1997 as the hottest year on record with an average temperature 0.43°C higher than those recorded for the period 1961-1990.

Peter Scholefield, head of WMO's World Climate Data and Monitoring Programme, says 1999 has little chance of topping 1998. "It will not be as hot because the heat records observed in 1998 were largely due to El Niño," he says. The cyclical El Niño phenomenon, in which the surface temperature of the Pacific Ocean rises, was over by the middle of 1998 and is not likely to reappear for at least two years. The 1998 El Niño was particularly intense and caused many disasters around the world.Drought sparked huge fires in Indonesia and floods devastated Ecuador, Peru and Kenya at the beginning of the year. The torrential rains that fell on China between June and August were due to El Niño's last gasps.

According to WMO, northern Eurasia was the only part of the world spared by the heat in 1998. In Florida, in the southeastern United States, the period between April and June was the driest on record in 104 years. France and the United Kingdom had the warmest February of the century. Qatar posted its hottest summer in history, and a record-breaking heat-wave caused the deaths of over 100 people in Russia in June. Drought ravaged several parts of Brazil, where fires broke out spontaneously. Chile had the least rain in a century. Drought also affected New Zealand and the Fiji Islands. ■

in boat propellers and destroys nets with its weight. It threatens hydro-electric power production by clogging up the channels which feed the dams. Farming suffers too because the fast-growing plant blocks irrigation canals.

When all efforts to control it had failed, ZERI decided to treat it as a friend, as people do in Viet Nam where it is cultivated, dried and made into compost which is excellent for growing edible mushrooms. A kilo of such compost can produce 112 kg of fresh tropical oyster mushrooms (*Pleurotus sajur caju*) in five weeks.

In Ethiopia, Dawit Abate, a mycologist in the biology department at Addis Ababa University, is training street children to grow this simple and profitable crop. In Zimbabwe, Margaret Taguira, of the University of Africa at Mutare, produces up to 100 kg a day. Spore banks can now be set up, after the Chinese example, to foster the scheme which has turned a plague into a weapon against poverty.

A worm that washes whiter

The colour white evokes thoughts of purity and clean-smelling linen. But it gets that way through treatment with chlorine, which eats away at ozone. The phosphates in detergents are also blamed for killing off life in lakes and rivers and causing green tides in the sea by setting off excessive growth of plants, which then decompose and empty the water of the oxygen necessary for other things to grow.

Z.M. Nyiira, of Uganda's National Council for Science and Technology, in Kampala, explains that some insects such as termites produce enzymes that "digest" cellulose and the blood and flesh of living creatures; others include the larvae of the bluebottle, the tsetse fly, the mosquito and the earthworm. So why not extract from some of the 1,800 known varieties of earthworm, such as *Eisenia foetida*, the enzymes they produce which can easily remove blood, wine and earth stains?

Such enzymes are already used to purify medicines and vaccines. Now they can be extracted from a worm with a syringe without killing it; the only difficulty is distinguishing between the head and the tail. Small soap firms in Colombia and Slovakia have started using this method.

The miracle of Las Gaviotas

The Las Gaviotas Environmental Research Centre was set up in 1966 by Paolo Lugari at Vichada, in eastern Colombia near the Venezuelan border. Funded by the central mortgage bank, it has built an international reputation on its large-scale use of renewable energy—equipping 40,000 units of low-cost housing in Bogota with solar water-heaters and refrigerators, setting up semi-industrial kitchens fuelled with cottonseed oil heated to 180°C in vacuum tubes, so avoiding the use of polluting fuels.

At Vichada,the hospital founded by Las Gaviotas produces its own energy, distils its own water, provides naturally-purified air, cooks its own biologically-grown vegetables and grows medicinal plants.

Colombia is losing 650,000 hectares of trees each year, and Lugari has decided to launch a huge reforestation programme. Despite drought and extreme soil acidity, about 1,000 hectares have been reforested at the rate of one Caribbean pine planted every few seconds around the clock for three months. Resin extracted from the pine is drained into boxes made of recycled cardboard ingenious enough to have won a national prize for innovation in packaging.

The return of the forest has meant water has come back too. Filtered and purified by the layer of humus, it is bottled and sold cheaply as part of a treatment for the digestive ailments which affect the population. The fifth world congress of ZERI will be held at Vichada this October.

A brewery for breeding fish

At Tsumeb, in northern Namibia, the national brewery company makes sorghum beer without leaving any waste. Inspired by a pilot project in Fiji, the brewers also breed fish and grow mushrooms. The sorghum waste is put in concrete containers where it ferments and gives off methane gas. Eighty per cent of Tsumeb's inhabitants cook with this gas, thus avoiding the use of wood fuel.

Namibia is one of the driest countries in the world, and it takes five litres of water to make a litre of beer. Instead of going to waste, the water from the brewery is used to fill big ponds. Seven tonnes of grain are needed to produce a tonne of butcher's meat, but only 1.8 tonnes are needed to produce a tonne of fish.So George Chan, a Mauritian expert who has worked extensively in China, got the idea of breeding fish near breweries and has had excellent results. Grain also makes a very good bedding in which to grow mushrooms. Similar experiments are being carried out in North America, Japan, Germany, Brazil, Colombia and the Seychelles. ■

France Bequette

Farms in the city

On terraces, balconies and even in stairwells, city-dwellers are growing more and more food—in the North for pleasure, in the South for survival

In both rich and poor countries—especially the latter—people are flocking from rural areas to the cities. The United Nations Development Programme (UNDP) says the population of the world's cities will nearly double between 1990 and 2025, rising from 2.4 billion to 5.5 billion.

Urban gardens, long neglected and even disdained because they were carelessly cultivated or insalubrious, are becoming a source of food and income for newcomers from the countryside. The UNDP sees them as a resource that should be exploited. It began looking into urban agriculture in 1991 and presented a report on it to the United Nations Conference on Human Settlements (Habitat II) in 1996.

The UNDP uses the term "agriculture" in a broad sense—it ranges from raising animals to recycling waste, while the term "urban" is used to cover "the area of a city's sphere of social, ecological and economic influence".

It describes urban agriculture as "an industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and re-using natural resources and urban wastes, to yield a diversity of crops and livestock."

© Gil Moti/Still Pictures, London

Harvesting vegetables grown on the roof of a slum house in Bangladesh.

Green-fingered urban gardeners

City-dwellers everywhere display enormous ingenuity when it comes to growing things. They make use of small gardens (apart from formal allotments), gaps between buildings, waste ground, roadsides, railway embankments, terraces, balconies and even stairwells. On spaces just a few metres square, you can find vegetable plots, hydroponic crops (grown with nutrients in sand or water but without soil), fruit trees, fishtanks, flowers and small animals such as rabbits, hamsters and poultry in cages hanging on walls.

These urban "farmers" are mostly women, who produce vegetables and animals for their own consumption and to make a little pocket money. For example, a young mother in Nairobi noticed at the roadside near her house a spot where for years people had dumped and burned garbage. She realized how fertile it would be and planted beans and maize there. Since then, she has been able to feed her family, drying the beans to eat during the off-season and selling roasted corn cobs to passers-by. Another woman grows manioc and spinach near a leaky pipe. Access to water is a serious problem—it's either too far away or too expensive.

These urban 'farmers' are mostly women, who produce vegetables and animals for their own consumption and to make a little pocket money

You don't have to own land to grow vegetables. Anything will do—boxes, guttering, old tyres, plastic bags. In Mexico City, people grow potatoes in discarded truck tyres. In the Chilean capital, Santiago, the Centre for Education and Technology has a model 20 m^2 urban garden to show how things can be done. To save space, containers are stacked up in a pyramid shaded from the sun by a vine. Cucumbers, marrows and melons grow vertically along the walls.

In Port-au-Prince, Haiti, an American food aid organization is encouraging people to grow crops on the flat roofs of houses. To make sure that the garden isn't too heavy for the roof to support, it advises using not earth, but a 5- to 10-cm thick layer of either compost made from garbage, or else cut grass, bagasse (sugar-cane waste), rice husks or maize leaves. In St. Petersburg, in Russia, people use sacks of peat to grow things in, with the sack serving as a container. Analyses made in New York show that such intensively-grown crops contain a tenth the amount of pollution found in field-grown crops.

But if not practised properly, urban agriculture can cause pollution and disease. Fertilizing plants with untreated sewage, for example, can cause cholera epidemics. Lead and cadmium from petrol gets concentrated in leaf vegetables. To avoid these risks, communities must be educated about them, urban agriculture included in local government policy and health regulations enforced. Community groups must also be encouraged so as to boost the growth of a food source which has become vital in overcrowded cities. ■

F. B.

Europe's welfare-

In Europe, thousands of 'companies for jobs' are trying to teach marginalized young people and the long-term unemployed how to work

In the 15 member-states of the European Union, the average unemployment rate is nearly 11 per cent, with big variations between countries. But there is plenty of work, especially in the area of the "social economy".

This sector, which accounts for 6 per cent of all jobs in Europe, includes firms and organizations whose aim is not just to maximize their profits. They are keen to increase the quality and accessibility of their products in addition to the well-being of their members and employees, especially by raising their level of education and training.

Many of them aim more specifically to help the most marginalized people to build up skills and work experience before they get a regular job. This involves two main groups: young people who may never have worked and older long-term unemployed people. Most of the latter are men, many of whom worked in traditional industries and who find the skills that gave them status are no longer in demand.

They often have multiple problems, ranging from educational failure to family and housing problems and alcohol or drug abuse. Many dropped out halfway through their secondary schooling and have difficulty reading and writing. But they all have their own abilities and skills. They should not be treated as victims but as people who can take responsibility for their own future given proper support.

© Laurent Bellier/CNB, Paris

An operative recycles telephone equipment as part of a French welfare-to-work scheme.

Unemployment rates in the 15 European Union countries

Unemployment rate (15- to 24-year-olds)		Total unemployment
21.2 %	European Union	10.8 %
21.3 %	Belgium	9.0 %
8.1 %	Denmark	5.4 %
10.7 %	Germany	9.9 %
31.0 %	Greece	9.6 %
39.2 %	Spain	20.9 %
29.0 %	France	12.6 %
15.9 %	Ireland	10.2 %
33.6 %	Italy	12.4 %
7.3 %	Luxembourg	2.5 %
9.7 %	Netherlands	5.5 %
7.6 %	Austria	5.1 %
14.1 %	Portugal	6.6 %
35.4 %	Finland	15.0 %
21.9 %	Sweden	10.4 %
13.6 %	United Kingdom	7.1 %

Source: Eurostat

A stepping-stone to the job market

All over Europe, the welfare-to-work schemes through training and work experience which sprang up in the 1970s have blossomed in the 1990s. They aim to help people move out of joblessness and into a form of supported employment with training.

A study of six countries published by the European Union and the French Committee of Welfare-to-work Companies (CNEI) reported last year that there were tens of thousands of schemes of this kind in existence[1]. They accounted for more than 280,000 jobs, a drop in the ocean compared with the number needed. They were also temporary jobs—short-term contracts ranging from a few months to a couple of years. They are not ends in themselves. Welfare-to-work schemes are not meant to create jobs but to be a stepping stone to the job market. They could be called "companies for jobs".

Their name, role and method of funding vary from country to country. They usually get some support from local, regional and national governments and some of them work in partnership with private firms and trade unions. They take the form of co-operatives, mutual societies, associations, foundations and charities.

In Scotland, for example, the Wise Group provides jobs in the intermediate labour market—jobs that range from renovation of run-down estates to home insulation and forestry. Participants receive a wage and have to learn the discipline of work—keeping regular hours and making a commitment.

In Germany, a new kind of employment and professional qualification company ("Beschaeftigungs und Qualifizierungsgesellschaft"—BQG) has emerged since reunification, mainly in the former East Germany as a result of the mass sackings that came with privatization.

In France, the government provides incentives for about 800 welfare-to-work companies ("entreprises d'insertion") which have the difficult task of balancing their books and winning orders in

* Simon Wilson is a British policy analyst and consultant. Thierry Jeantet is a French expert in social economics and author of l'Economia Sociale in Europa (Ed.Liocorno, Italy, 1999).

to-work business

Simon Wilson and Thierry Jeantet*

competition with "normal" firms at the same time as hiring jobless people at the end of the road and marginalized young people. "Intermediary associations" and "neighbourhood committees", mainly concerned with community activity in poor suburbs and with providing local services, are also growing.

In Italy, laws are encouraging the development of some 2,500 "social co-operatives". In Spain, about 1,000 welfare-to-work schemes are operating, along with 500 "special job workshops."

All these enterprises work mainly in the building trade and the services sector, but also in improving the environment, recycling, vehicle repair and restaurants. Some are even breaking into innovative sectors such as communications and biotechnology.

Gaining vocational skills is important. The jobs of the future will be highly skilled jobs with a strong technology component and will involve contact with people. But "companies for jobs" do much more than teach their employees how to paint houses, plant trees, repair computers or look after old people. They offer experience of the world of work.

Job insecurity

Thierry Delavaux, who runs a welfare-to-work firm in a Paris suburb, says: "You have to focus both on know-how and on how to behave. A young person can learn to hammer nails in perfectly, but that won't be any good if he turns up for job interviews with a walkman on his head."

Employers need people who are "job ready", people they don't have to teach how to read, write and count, how to be motivated and to communicate with fellow workers. The first things these job-seekers have to learn are getting to work on time, meeting deadlines and working in a team. Sometimes they have to be encouraged to buy an alarm clock, helped to plan the route to their workplace by public transport, and even need to be accompanied to work for the first few days.

In a world where professional careers are constantly changing, they also have to be taught how to adapt to new and flexible working conditions—repeated short-term contracts, working from home and wider use of information and communication technologies.

This is especially important because those who find employment after a welfare-to-work scheme (less than half of the total) often move into insecure jobs with low wages and poor prospects. ■

1. *Des pratiques différentes, une volonté commune. Les "entreprises sociales" et la lutte contre l'exclusion dans six pays de l'Union Européenne* ("Different practices, a common will. 'Social firms' and the fight against exclusion in six EU countries"). The study, published in 1997, covers Germany, Austria, Belgium, Spain, France and Italy.

Spanish youth outside in

Over a thousand Spanish organizations, many based in tough neighbourhoods, are running schemes to bring young outsiders back into society

"We can't go to the police, or borrow money from the bank or anything. All I've got is my name. . ." This statement by a character in *My Name is Joe*, a new film by British director Ken Loach, describes in a nutshell the plight of those who find themselves on the margin of society.

It is no easy matter to bring young people in this situation back into society, to break the vicious circle of marginalization and give them the chance to find a steady job and, more importantly, to learn a skill. Semilla is one of many organizations in Spain that are trying to do just this.

"We try to prepare them for long-term jobs, but even if they find work for only a few months, it enables them to build up their CV," says Luis Oscar Reyes, who runs Semilla's youth information centre and jobs club. "They often have a range of skills which unfortunately don't come across very well in an official document." Semilla, which was founded nearly 25 years ago, is based in the Madrid dormitory suburb of Villaverde, which has a high school dropout rate (60 per cent), and is plagued by alcoholism, unemployment, drug addiction, broken families and youth gangs.

Breaking the vicious circle

"I think I'll be able to get a job after this," says 19-year-old Cristina, who heard about Semilla when she was at school. After studying cutting and dressmaking in a design and fashion house for two years, she now works in Metas, a boutique which also belongs to Semilla. There she has learned all about selling decorated fabrics and household linen, ranging from accounting to customer relations, and making window blinds and quilts.

"They take turns doing different jobs, learning how a business works and above all how to accept responsibilities," says Paloma, who runs the shop and supervises its staff of five (three teachers and two professional couturiers) as well as the students.

© Chema Rey, Madrid

A young woman at work in a boutique run by the Spanish workfare association Semilla.

Hundreds of young people like Cristina have been prepared by Semilla, which is funded by public and private Spanish and European bodies and currently has 270 students.

The young people go to Semilla on their own initiative, or on the advice of relatives, friends or social workers. Those under 16 (the legal school-leaving age) start by going to a day centre and the ones who have not been to school for at least four months receive special instruction. Evening classes also help the youths overcome their educational problems.

Three workshops give the oldest among them a two- or three-year training in computers, fashion and design, or the hotel business. The last stage of the course is a spell in the world of work, at first within Semilla itself, which apart from its shop and workshop has a catering service.

"We also have agreements with firms like Campofrio (one of Spain's leading food companies) and Auchan (a French supermarket chain) so young people can do unpaid work training for up to three months," says Reyes. "We've also have 40 people in a supervised professional back-to-work programme, which involves subsidizing firms to the tune of 30,000 pesetas ($215) a month for every young person they take on for at least six months."

Semilla also acts as a labour exchange, serving as a clearing house for job offers, helping people compile CVs and preparing them for courses run by the Spanish state employment agency, INEM. It reckons that 80 per cent of those who have received the training it provides manage to find jobs, mostly in small neighbourhood shops.

Semilla's experience is not unique. There are thought to be more than a thousand similar organizations in Spain. The biggest category among them includes what are known as social co-operatives, back-to-work firms which exist mainly in Catalonia (more than 200), Andalusia (150), Madrid (100), the two Castiles (60), the Basque Country (50), Valencia (50) and Galicia (50). Their methods and organization systems differ, but they are all guided by one basic principle—that prevention is the first step in the struggle against exclusion. ■

Cecilia Ballesteros in Madrid

A **worldwide** movement

Europe has no monopoly on organizations working at the crossroads between economics and social work. In Japan, mutual companies in the insurance sector and consumer co-operatives are an established part of the scene. Recently new service co-ops have been created, many of them built up by women.

For more than a decade, the programme to fight unemployment in Quebec has supported the creation of co-operatives and associations which aim to get people back to work. In the United States, many local community initiatives have long been launched by volunteers. Those which have survived have brought together partners from associations and local authorities, without depending too heavily on support from the public purse.

In Africa and Latin America, the number of micro-credit co-operatives, grassroots groups and other neighbourhood associations involved in vocational training and job creation, is growing all the time. This kind of informal sector is sometimes bigger than the formal labour market. ■

Fighting truancy with **made-to-measure** education

A group of Uruguayan teachers is battling illiteracy in a poor area of the capital, Montevideo, by giving children who skip school—and their mothers—individual help.

The teachers say youngsters drop out mainly because they do not have enough contact with the written word at home, where the main influence is oral communication, mostly with the mother. So a child who sells sweets and becomes very good at mental arithmetic can fail maths at school through being unable to cope with abstractions and transfer familiar everyday mental calculations into mathematical symbols.

The mothers—mostly uneducated or functionally illiterate—play a key part in their children's ability to learn and handle symbols and can encourage them to think in abstract terms. To bring mothers into this learning process, the teachers meet them and their children at home for an hour twice a week.

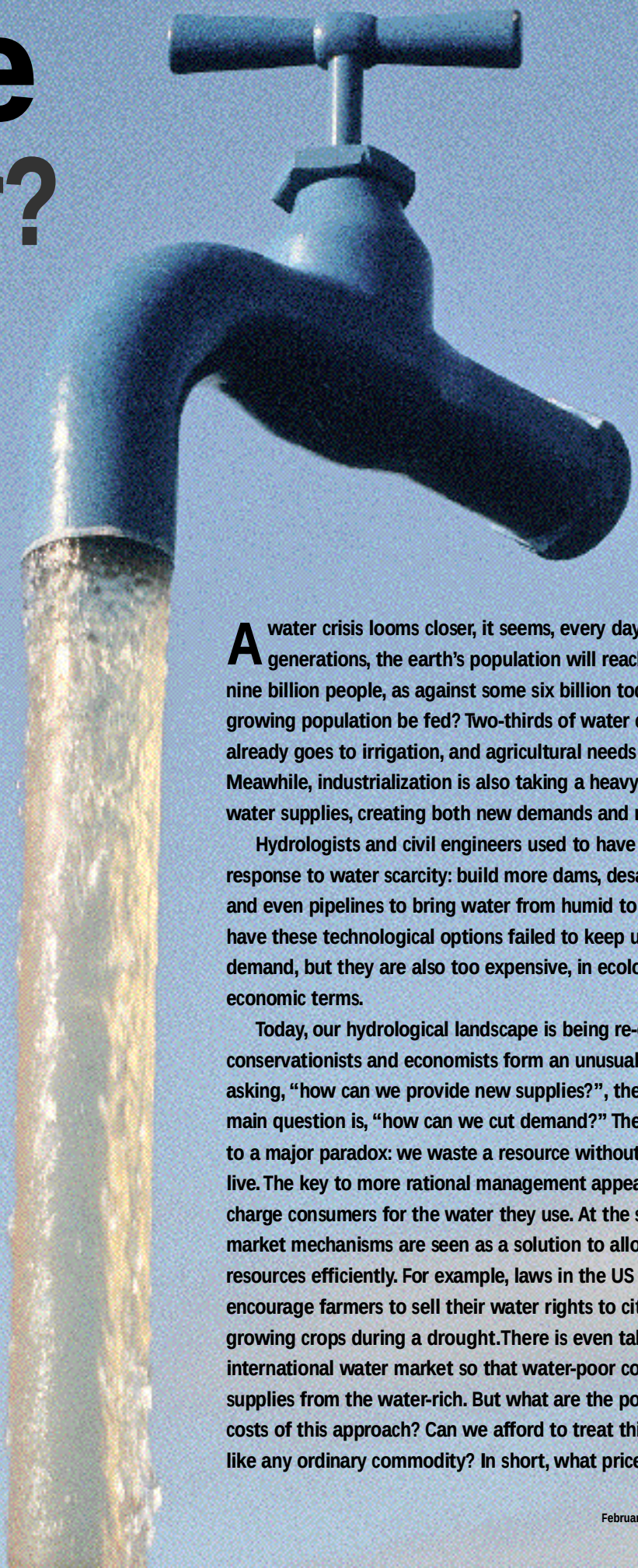
The programme, known as El Abrojo (the thistle), has so far involved 1,168 people and is backed by the Uruguayan education ministry and Terre des Hommes, a French non-governmental organization. It does not aim to take the place of the school but simply to build bridges so children can return to the classroom.

The scheme has been a great success. Every one of the children from 88 families who took part went back to school and got much better results. Reading became a new family pastime. Some children and their mothers even began keeping diaries which, says project coordinator Adriana Briozzo of the Uruguayan Institute of Popular Education, helps "to boost the self-confidence of the children and their mothers and to channel the aggressivity of the mothers."

Reading sessions have been held in the street and a travelling library has been set up. The teachers hope to extend El Abrojo, which won UNESCO's Noma Prize for Literacy last year, to many more families. ■

E-mail for El Abrojo:abrojo@chasque.apc.org

What price water?



A water crisis looms closer, it seems, every day. In just a couple of generations, the earth's population will reach an estimated nine billion people, as against some six billion today. How will this growing population be fed? Two-thirds of water consumption already goes to irrigation, and agricultural needs are increasing. Meawhile, industrialization is also taking a heavy toll on our fragile water supplies, creating both new demands and risks of pollution.

Hydrologists and civil engineers used to have a standard response to water scarcity: build more dams, desalinization plants and even pipelines to bring water from humid to dry areas. Not only have these technological options failed to keep up with rising demand, but they are also too expensive, in ecological as well as economic terms.

Today, our hydrological landscape is being re-designed as conservationists and economists form an unusual alliance. Instead of asking, "how can we provide new supplies?", they now insist the main question is, "how can we cut demand?" Their concerns point to a major paradox: we waste a resource without which we cannot live. The key to more rational management appears to be simple: charge consumers for the water they use. At the same time, other market mechanisms are seen as a solution to allocating water resources efficiently. For example, laws in the US state of California encourage farmers to sell their water rights to cities instead of growing crops during a drought.There is even talk of setting up an international water market so that water-poor countries can buy supplies from the water-rich. But what are the political and social costs of this approach? Can we afford to treat this vital resource like any ordinary commodity? In short, what price water? ■

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A rare and precious

Fresh water is a scarce commodity. Since it's impossible to increase supply, demand and waste must be reduced. But how?

Water is a bond between human beings and nature. It is ever-present in our daily lives and in our imaginations. Since the beginning of time, it has shaped extraordinary social institutions, and access to it has provoked many conflicts.

But most of the world's people, who have never gone short of water, take its availability for granted. Industrialists, farmers and ordinary consumers blithely go on wasting it. These days, though, supplies are diminishing while demand is soaring. Everyone knows that the time has come for attitudes to change.

Few people are aware of the true extent of fresh water scarcity. Many are fooled by the huge expanses of blue that feature on maps of the world. They do not know that 97.5 per cent of the planet's water is salty—and that most of the world's fresh water—the remaining 2.5 per cent—is unusable: 70 per cent of it is frozen in the icecaps of Antarctica and Greenland and almost all the rest exists in the form of soil humidity or in water tables which are too deep to be tapped. In all, barely one per cent of fresh water—0.007 per cent of all the water in the world, is easily accessible.

Over the past century, population growth and human activity have caused this precious resource to dwindle. Between 1900 and 1995, world demand for water increased more than sixfold—compared with a threefold increase in world population. The ratio between the stock of fresh water and world population seems to show that in overall terms there is enough water to go round. But in the most vulnerable regions, an estimated 460 million people (8 per cent of the world's population) are short of water, and another quarter of the planet's inhabitants are heading for the same fate. Experts say that if nothing is done, two-thirds of humanity will suffer from a moderate to severe lack of water by the year 2025.

Inequalities in the availability of water—sometimes even within a single country—are reflected in huge differences in consumption levels. A person living in rural Madagascar uses 10 litres a day, the minimum for survival, while a French person uses 150 litres and an American as many as 425.

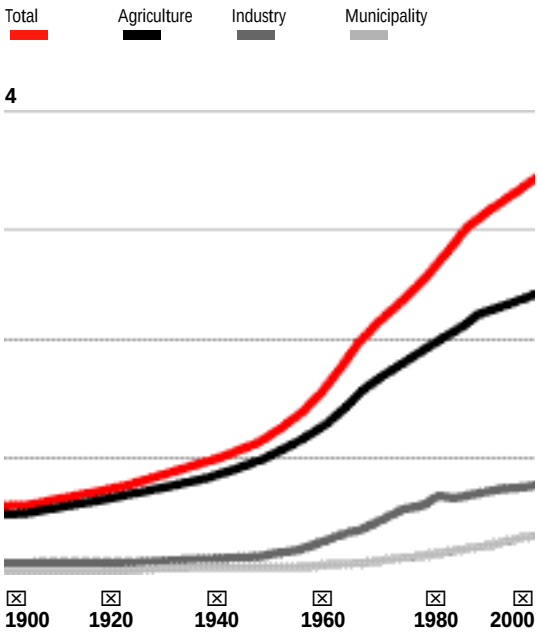
Scarcity is just one part of the problem. Water quality is also declining alarmingly. In some areas, contamination levels are so high that water can no longer be used even for industrial purposes. There are many reasons for this—untreated sewage, chemical waste, fuel leakages, dumped garbage, contamination of soil by chemicals used by farmers. The worldwide extent of such pollution is hard to assess because data are lacking for several countries. But some figures give an idea of the problem. It is thought for example that 90 per cent of waste water in developing countries is released without

Sharper vision

Desalinization, state of the art irrigation systems, techniques to harvest fog—technological solutions like these are widely hailed as the answer to water scarcity. But in searching for the "miracle" solution, hydrologists and policy-makers often lose sight of the question: how can we use and safeguard this vital resource? UNESCO's International Hydrological Programme (IHP) takes an interdisciplinary approach to this question. On the one hand, IHP brings together scientists from 150 countries to develop global and regional assessments of water supplies and, for example, inventories of groundwater contamination. At the same time, the programme focuses on the cultural and socio-economic factors involved in effective policy-making. For example, groundwater supplies in Gaza (Palestinian Authority) are coming under serious strain, partly because of new business investment in the area. IHP has a two-pronged approach. First, train and help local hydrologists accurately assess the supplies. Second, work with government officials to set up a licensing system for pumping groundwater.

By joining forces with the World Water Council, an international think-tank on hydrological issues, IHP is now hosting one of the most ambitious projects in the field: World Water Vision. Hundreds of thousands of hydrologists, policy-makers, farmers, business leaders and ordinary citizens will take part in public consultations to develop regional scenarios as to how key issues like contamination will evolve in the next 25 years. ■

Global water withdrawals (1900-2000) in thousands of km^3 per year



resource

Houria Tazi Sadeq*

© Glen Christian/Uniseal, Arnhem

Drawing water from a well in Burkina Faso.

* Moroccan jurist, president of the Maghreb-Machrek Water Union, vice-president of the International Water Secretariat

any kind of treatment.

Things are especially bad in cities, where water demand is exploding. For the first time in human history, there will soon be more people living in cities than in the countryside and so water consumption will continue to increase. Soaring urbanization will sharpen the rivalry between the different kinds of water users.

Curbing the explosion in demand

Today, farming uses 69 per cent of the water consumed in the world, industry 23 per cent and households 8 per cent. In developing countries, agriculture uses as much as 80 per cent. The needs of city-dwellers, industry and tourists are expected to increase rapidly, at least as much as the need to produce more farm products to feed the planet. The problem of increasing water supply has long been seen as a technical one, calling for technical solutions such as building more dams and desalination plants. Wild ideas like towing chunks of icebergs from the poles have even been mooted.

The water from the fountain
glides, flows and dreams
as, almost dumb, it licks
the mossy stone.

Antonio Machado (1875-1939), Spain

But today, technical solutions are reaching their limits. Economic and socio-ecological arguments are levelled against building new dams, for example: dams are costing more and more because the best sites have already been used, and they take millions of people out of their environment and upset ecosystems. As a result, twice as many dams were built on average between 1951 and 1977 than during the past decade, according to the US environmental research body Worldwatch Institute.

Hydrologists and engineers have less and less room for manoeuvre, but a new consensus with new actors is taking shape. Since supply can no longer be expanded—or only at prohibitive cost for many countries—the explosion in demand must be curbed along with wasteful practices. An estimated 60 per cent of the water used in irrigation

is lost through inefficient systems,for example.

Economists have plunged into the debate on water and made quite a few waves. To obtain "rational use" of water, i.e. avoiding waste and maintaining quality, they say consumers must be made to pay for it. Out of the question, reply those in favour of free water, which some cultures regard as "a gift from heaven". And what about the poor, ask the champions of human rights and the right to water? Other important and prickly questions being asked by decision-makers are how to calculate the "real price" of water and who should organize its sale.

The state as mediator

The principle of free water is being challenged. For many people, water has become a commodity to be bought and sold. But management of this shared resource cannot be left exclusively to market forces. Many elements of civil society—NGOs, researchers, community groups—are campaigning for the cultural and social aspects of water management to be taken into account.

Even the World Bank, the main advocate of water privatization, is cautious on this point. It recognizes the value of the partnerships between the public and private sectors which have sprung up in recent years. Only the state seems to be in a position to ensure that practices are fair and to mediate between the parties involved—consumer groups, private firms and public bodies. At any rate, water regulation and management systems need to be based on other than purely financial criteria. If they aren't,hundreds of millions of people will have no access to it. ■

© Patrick Bertrand/Still Pictures, London

Irrigating an apple orchard in Provence (France).

- **A person can survive for about a month without food, but only about a week without water.**
- **About 70 per cent of human skin consists of water.**
- **Women and children in most developing regions travel an average of 10 to 15 kilometres each day to get water.**
- **Some 34,000 people die a day from water-related diseases like diarrhoea and parasitic worms. This is the equivalent to casualties from 100 jumbo jets crashing every day!**
- **A person needs five litres of water a day for drinking and cooking and another 25 litres for personal hygiene.**
- **The average Canadian family uses 350 litres of water a day. In Africa, the average is 20 litres and in Europe, 165 litres.**
- **A dairy cow needs to drink about four litres of water a day to produce one litre of milk.**
- **A tomato is about 95 per cent water.**
- **About 9,400 litres of water are used to make four car tires.**
- **About 1.4 billion litres of water are needed to produce a day's supply of the world's newsprint.**

Sources:International Development Initiative of McGill University, Canada;Saint Paul Water Utility, Minnesota,USA

Lack of access to safe water and basic sanitation, by region, 1990-1996 (percent)

Region	People without access to safe water	People without access to basic sanitation
Arab States	**21**	**30**
Sub-Saharan Africa	**48**	**55**
South-East Asia and the Pacific	**35**	**45**
Latin America and the Caribbean	**23**	**29**
East Asia	**32**	**73**
East Asia (excluding China)	**13**	**—**
South Asia	**18**	**64**
Developing countries	**29**	**58**
Least developed countries	**43**	**64**

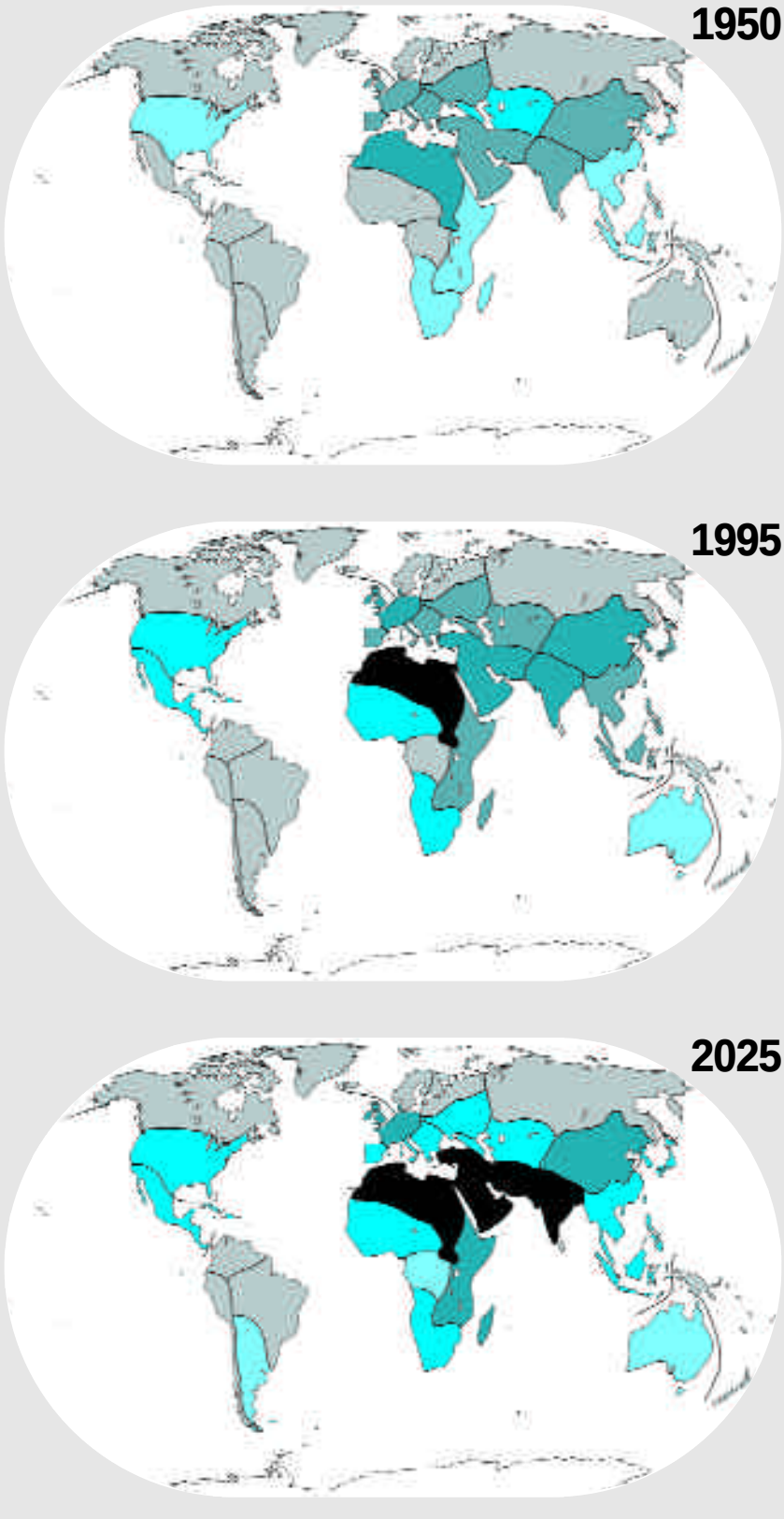
Source: Human Development Report 1998, New York, UNDP

Periods of complete renewal of the earth's water resources

Kinds of water	Period of renewal
Biological water	**several hours**
Atmospheric water	**8 days**
Water in river channels	**16 days**
Soil moisture	**1 year**
Water in swamps	**5 years**
Water storages in lakes	**17 years**
Groundwater	**1 400 years**
Mountain glaciers	**1 600 years**
World ocean	**2 500 years**
Polar ice floes	**9 700 years**

Source: World Water Balance and Water Resources of the Earth , Gidrometeoizdat,Leningrad,1974 (in Russian)

A thirsty planet



Water availability of the world regions (1 000m^3/year per capita)

- < 1.0 = catastrophically low
- 1.1 - 2 = very low
- 2.1 - 5 = low
- 5.1 - 10 = middle
- 10.1 - 20 = high
- > 20 = very high

We now have less than half the amount of water available per capita than we did 50 years ago. In 1950,world reserves, (after accounting for agricultural, industrial and domestic uses) amounted to 16.8 thousand cubic metres per person. Today, global reserves have dropped to 7.3 thousand cubic metres and are expected to fall to 4.8 thousand in just 25 years.

Scientists have developed many ways of measuring supplies and evaluating water scarcity. In the maps at right, "catastrophic" levels mean that reserves are unlikely to sustain a population in the event of a crisis like drought. Low supplies refer to levels which put in danger industrial development or ability to feed a population.

Just 50 years ago, not a country in the world faced catastrophic water supply levels. Today, about 35 per cent of the population lives under these conditions. By 2025, about two-thirds will have to cope with low if not catastrophic reserves. In contrast, "water rich" regions and countries—such as northern Europe, Canada,almost everywhere in South America,Central Africa,the Far East and Oceania—will continue to enjoy ample reserves.

The sharp declines reflect the soaring water demands of growing populations, agricultural needs and industrialization.In addition, nature has been far from even-handed.More than 40 per cent of the water in rivers, reservoirs and lakes is concentrated in just six countries: Brazil,Russia,Canada,the United States, China and India. Meanwhile just two per cent of river, reservoir and lake water is found in about 40 per cent of the world's land mass.

As a result,in 2025 Europe and the United States will have half the per capita reserves they did in 1950, while Asia and Latin America will have just a quarter of what they previously enjoyed. But the real drama is likely to hit Africa and the Middle East, where available supplies by 2025 may be only an eighth of what they were in 1950. ■

Who pays the piper? Who calls the tune?

By putting a price tag on water, we may be able to save this vital resource from waste. But can privatization schemes ensure that everyone is served? John Briscoe of the World Bank argues for a greater role for the market. But French academic Bernard Barraqué sees danger in treating water like private property. Colin Green, self-described iconoclast and economist, asks the questions.

Colin Green: "Water as an economic resource" is generating tremendous controversy and discussion. What does this mean in practical terms?

John Briscoe: Two things. First, there is a cost associated with providing services like water supply or irrigation. As with other services, users should pay for the cost of those services to ensure among other things accountability to users and financial sustainability. In developing countries, it is often claimed that services must be subsidized to protect the poor. Yet in virtually every case, the influential or powerful people benefit from the subsidy, while the poor don't receive formal services and end up paying water vendors about ten times more than the cost of the service. There is broad agreement on this.

The second point is more subtle and contested—what economists call the "opportunity cost of water". Imagine a basin where all the water is already used. By using one cubic metre of water (even if it is free), I impose a cost on everyone else who is denied the opportunity to use that water. In technical terms, the highest value of the use denied is called "the opportunity cost". The controversy stems from how to deal with this cost. In the past, the general solution has been that "government will allocate water." But it has become painfully clear that governments are not very good at this task. There are several alternatives: one is to charge users a price and thus ration a scarce resource. This is strongly resisted by current users, with good reason, since it is really an abrogation of an existing formal or informal property right. A more creative approach has been to assign property rights to users and then allow them to trade those rights. This is not a "free market". Indeed, it requires a great deal of regulation. Informal markets have long existed wherever there has been water scarcity. But in recent decades, there has been enormous progress in establishing formal markets in places like California in the United States, Chile, Australia and Mexico.

Bernard Barraqué: Water is first a natural resource, and in some cases it becomes both a social and economic good. In Europe, we tend to think that a price should not be attached to water in its natural environment. Conversely, the cost of installing technology to make this water useful should be at least partly covered by users.

Under European water laws, people can take small amounts of water directly from the source for free. The general trend in the public water system is for consumers to pay a small flat fee for the connection or for a basic allowance of water. Beyond that, they pay for what they use.

In the case of non-domestic users fully or over-exploiting a basin, I think that there should be abstraction levies, particularly for irrigation. A very small levy on irrigators can liberate a lot of water for other users. However, it is important to understand that these economic incentives (levies) are more efficient when they are set up by "users' boards" than by central regulators.

Colin Green: Is the water crisis really a food crisis? Is the problem the availability of water for irrigation?

John Briscoe offers a similar response to that of **Bernard Barraqué**: Irrigation is the world's biggest user (of water) because water is not only abstracted but also evaporates, meaning it does not return to

A water vendor in Jodhpur (India).

© Ron Giling/Lineair, Arnhem

© Wolfgang Volz/ Bildberg/Studio X, Paris

Inspecting a water main in Hamburg (Germany).

the river basin. The problem is not making water available for irrigation, but ensuring that it is efficiently used. However, the crisis is very complicated. There is, for example, the growing problem of pollution.

Colin Green: Economists have developed a variety of ways to assess the value of natural resources. But for some people, a resource like wetland has an intrinsic value which cannot be measured in dollars. How do we include these moral concerns in economic analyses?

John Briscoe: I would not call a wetland a "moral concern". It is something people value or want because it provides a variety of very important services,including aesthetic ones and even just so that it will exist. The logical approach is to find ways of getting stake-holders to manage comprehensively the wetland and the entire aquatic ecosystem.

Bernard Barraqué: Some suggest that by pricing the "services" flowing from that wetland, we can ensure that people value and respect that resource. I don't agree with this. Economists have not yet found a way of truly evaluating all of the assets of a resource like a wetland.

Colin Green: Many economists believe that all uses of water should be charged at the price equal to the costs of making that water available. Are prices really effective in reducing the use and waste of water?

John Briscoe: Water pricing and metering are certainly effective in reducing demand. It isn't hard to see why this should be the case, since it is true for everything else we consume.

Bernard Barraqué: Water supply systems are cheap to run but expensive to build. This is basically why developing countries installing a water supply scheme must rely on heavy subsidies and cheap loans, just as developed countries did in the past. Once the initial systems have been completed, then it becomes possible to raise the prices to cover long-term maintenance of the systems, as is the case in northern Europe.

The water flows in rivulets and streams, to the grid on the street corner, it stagnates and swells. . . . Then it hides, disappears, becomes as one with the air we breathe. It dims the light. It lengthens the hours for lovers, prolongs solitude, deepens misfortune.

Jaime Sabines (1926-),Mexico

Water meters don't necessarily lead to reduced consumption. Most European studies have shown that consumption of water for indoor purposes—drinking, cooking, and bathing—does not vary according to the price charged. Conversely, outdoor uses—like filling swimming pools, washing cars and watering gardens—are more sensitive to prices. So we have to be careful about making blanket statements concerning metering. There is another point to be made. While there is a lot of talk about domestic metering, little attention has gone to the savings that could result from metering large irrigation schemes.

Colin Green: Some economists argue that rights to abstract water should be made tradable. This requires that individuals have a legal right to abstract water, which implies a sense of ownership. Should existing laws be changed to create that right?

John Briscoe: Where there is water, there are implicit rights to that water and conflicts over those rights. By formally defining these rights, we can establish clearer and more efficient ways of dealing with a problem that is intrinsic to human existence. The "trading system"in question has proven to be a success in places like California, where laws were passed authorizing farmers to sell their water rights to cities during a drought. The economic and social benefits of this system are clear.

Bernard Barraqué: In Europe, "private" waters are declining in importance, but this does not mean that they have become "government-owned". Europeans generally consider water to be a common property, which can be used but not owned. In most cases, the state does not assume the role of direct manager of the resources but acts as a kind of guarantor that different kinds of users share the resources according to equity, equality and ethical principles. This balanced system allows more flexibility than privatization of resources, and what's more it can be accompanied by monetary compensation.

Colin Green: Is the argument for privatization a practical one or is it essentially ideological?

John Briscoe: Both. This is a big subject, with many red herrings! No one has truly "privatized" water services except England and Wales. We more commonly find what French colleagues call "delegated management", in which ownership remains public while private operators are responsible for a variety of tasks which they do better than public operators. There is no magic regulatory solution to the monopoly problem in which water is either a public or a private domain. I strongly believe that a mixed system in which public operators look over their shoulders at private competitors, and vice-versa, offers the best hope for getting people good services at a reasonable cost.

Bernard Barraqué: I agree with John that mixed systems are in fact superior. There is a wide array of partial privatization schemes across Western Europe. In practice, "privatization" occurs when the public system fails. There is a general feeling that privatization is the only choice. But there are alternatives. For example, some countries might find it advantageous to tie together different kinds of services like gas, electricity and water in a more efficient system of financing and billing.

Colin Green: Public participation is considered a critical ingredient to sustainable development. How can we combine increased public participation with privatization?

John Briscoe: Astute observers have argued that the greatest benefit of getting the private sector involved is precisely that it brings greater public scrutiny, openness and accountability. In England and Wales (considered by some to be a model of water privatization, but a model I am personally not a fan of), the local community, press, and public at large are much more involved than they were before privatization.

© Nigel Dickinson/Still Pictures, London

A community project to build underground sewerage and drinking-water installations in Guatemala City.

When people are faced with unresponsive and unaccountable bureaucracies, they tend to resign themselves to inefficient services. They don't voice their demands. With privatization, people are paying for a service, have a clear view of the obligations of the provider and will not accept poor services. In many countries which have experienced privatization, we find people beginning to make the same demands of publicly provided services. This may prove to be the greatest benefit associated with private water management.

Bernard Barraqué: I disagree with John concerning public participation in England and Wales. Privatization led to an adversarial form of participation. In France also, people tend to have less confidence in private management. This might be a good reason to keep some role for local government.

Privatization is ideologically based on "consumerizing" a service. In the process, people assume the role of a customer, not a citizen. As a citizen, an individual might feel a civic responsibility to cut down on water use especially during a drought. A customer, on the other hand, expects the service paid for, no matter what.

It takes a lot of information about how water is used, for example, to run an efficient system. Public participation offers this information and so ultimately lowers the system's running costs. At the same time, a more informed consumer may also be a more demanding citizen. For example, in France people complain about high water prices. They insist on having individual meters even when those meters aren't really efficient. Sure, the meters will tell them how much water they used. But those people still aren't going to see that their water bills are covering costs to clean up industrial pollution connected to public sewers, for example, or to clean up nitrates from agriculture. With more information, those same people might start demanding a more sustainable water policy. ■

Valencia: a thousand years of calm waters

The farmers of Valencia, on the river Turia on Spain's east coast, take their rights to water very seriously. For over a thousand years, they have relied on their city's Water Tribunal to guarantee that water drawn from the Turia is distributed fairly. Although they are not lawyers and do not keep a written record of the verdicts they reach, and although there is no prison for offenders, eight Síndicos or magistrates meet under the Porch of the Apostles of the Cathedral of Valencia and settle verbally the disputes arising between farmers over the right to use water from the channels irrigating the 17,000 hectares of what is known as the "Orchard of Valencia".

This scene, which has been re-enacted every Thursday at midday since the middle of the tenth century, when Abd-ar-Rahman III was the caliph of Córdoba, makes the "Tribunal de las Aguas de la Vega de Valencia" the oldest law court in Europe.

The eight magistrates, who are dressed in black and are accompanied by a bailiff bearing the tribunal's emblem, represent each of the "mother channels" which are used for irrigation and for distribution of the water from the Turia. The roughly 1,500 farmers from each of these channel systems elect their own magistrate, who is required to be someone who actually farms the land and is not simply a landowner. The task of these "people's judges" is to ensure that all the farmers of Valencia are supplied with the water they need through application of the provisions of a decree promulgated by King James I of Aragon in 1238, which is still in force and provides that "Everybody shall be entitled to a share of the water in proportion to the amount of land owned".

The most common complaints with which the Court has to deal are concerned with the squandering or theft of water at times of drought, the disruption of channels, damage to crops as a result of water overflowing onto adjoining land, and failure to comply with irrigation schedules and to keep the channels clean so that the water can flow along them freely. ■

Hungary: under new management

Hungary is diving into the whirlpool of privatization but the country's new water companies have failed to make a splash

It looks the same. Tastes the same. It even smells the same, with that familiar foul whiff of chlorine. But the seemingly ordinary glass of water is becoming more and more precious for the two million inhabitants of Budapest. Between 1991 and 1999, water prices increased threefold. Across Hungary, people have seen their water bills grow as much as five times as state budgets dry up, leaving public utilities to either cut services or charge higher rates.

After 40 years of socialist mismanagement, Hungarians have developed an allergy to anything centrally-run.As a result, the water utilities, which used to be run mostly by state bodies, were transformed into share-holding companies belonging to the municipal governments between 1991 and 1994. However, many of the local governments are finding the responsibilities of the companies to be more than they bargained for.

To begin with, municipal authorities had to raise the water bills of the people who elected them. Second, the inherited infrastructure is in need of major investment.While the supply system ensures that almost everyone has water, very little of the water used is treated. In Budapest, for example, about 70 per cent of all waste water is dumped into the Danube each year (about 193 million cubic metres in 1998), to the growing chagrin of downstream neighbours. Under the Sophia Convention of 1994, Hungary has agreed to curb this pollution but the infrastructure required will cost about three billion dollars.

In their search for revenue, municipal governments are increasingly turning to privatization. Between 1994 and 1997, they sold 25 to 50 per cent of the shares of six of the more than 200 municipal water companies. These six companies supply water to about a quarter of the population nation-wide.

But judging by initial results, it will take some time before that investment translates into improved supply and treatment systems. In Budapest, for example, new revenues from the privatized system are supposed to cover not just operating costs but also repairs, notably, reconstruction of 10 per cent of the capital's 4,400 kilometres of pipeline each year. Yet only 30 kilometres of pipeline were fixed last year.

However, there is still a popular conviction that private managers are bound to do better than civil servants. Indeed, economic efficiency has improved in the capital over the last couple of years, since some of the water assets were bought by a Franco-German consortium for $91 million. The consortium manages the system, while the municipality retains control over key issues like water pricing.

Last year, the consortium managed to trim about $12 million from operating costs, essentially by restructuring and cutting jobs. The investors received 75 per cent of these savings. The remaining 25 per cent were used to keep prices as low as possible. Even so, last year's rates still rose more than 20 per cent against a consumer price index increase of 13 to 14 per cent. For this year, private investors originally proposed a 25 per cent increase which the local government rejected.Only after protracted negotiations did the two sides agree to a compromise of 13 per cent,slightly more than the predicted inflation rate.

The bottom line is clear: no one is satisfied. Private investors are faced with companies that continue to lose money, while municipal authorities fear the political costs from rising water prices. Meanwhile, ordinary citizens hold their noses over glasses of water that cost more each year. ■

Gabor Szabo in Budapest

May Osiris introduce you to fresh water.

Inscription on an Egyptian funerary monument.

H_2O, a formula for good health

Water consists of two atoms of hydrogen and one of oxygen. It also contains potassium, iron, sodium, calcium, magnesium and carbonates . . . and sometimes bubbles. The world market for bottled water, which is dominated by the multinational companies Nestlé and Danone, is a fast-growing sector, with an annual consumption of 80,000 million litres.

The definition of mineral water accepted by FAO's Codex Alimentarius, which is used as an international yardstick,says that natural mineral water is water directly extracted from the earth and bottled close to its source, with a stable composition and subject to as little processing as possible. This rules out water which is mineralized after extraction, water for medicinal purposes (which is often sold in chemists' shops) and water from the mains that is simply bottled.

The market for mineral water, which is synonymous with health and high quality of living, is also growing. According to figures provided by the specialized consultant Euromonitor, sales worldwide increased by some 25.5 per cent between 1993 and 1997,rising from 46,430 to 58,290 million litres.

In terms of consumption,the Italians and the French appear to be the peoples who are keenest on mineral water, since they consume more than 100 litres per person per year, twice the amount drunk by the Spanish (55 litres) and 20 times more than the Japanese (5 litres).

Mineral water is also trendy. It is used in the manufacture of cosmetics, and in some countries there are bars where only different kinds of mineral water are sold, as well as professional water-tasters whose job it is to appraise its qualities. By contrast, in many developing countries bottled water (often sold in large flagons) is a must, because of the poor quality of the mains water. The United Nations Development Programme's latest Human Development Report notes that if all the world's population had access to clean drinking water, two million lives a year would be saved. ■

South Africa: water for everyone

A progressive new water management policy designed to provide all South Africans with guaranteed access to water

© Trond Isaksen/Lineair, Arnhem

Fetching water from a communal tap in a South African township.

Among the many stories of deprivation told by ordinary South Africans during three months of nation-wide poverty hearings last year, one event still stands out. In a village in northern Kwazulu-Natal, crocodiles had reportedly killed a handful of women who went to a river to collect water for their basic needs.

As that event graphically testifies, water poverty is literally a life and death matter in South Africa, where about a third of the country's 36 million people lacks access to adequate supplies of potable water, and almost two-thirds lack basic sanitation. The domino effects are severe. The poverty hearings, organized by non-governmental organizations and churches, were filled with accounts of children missing school because of water-related illness, and women kept out of the productive labour force to take care of them. There is also the ecological damage caused by lack of sanitation facilities, which leaves rivers flowing with disease.

But change is underway as South Africa enacts what many consider one of the world's most progressive water management policies.

Learning to share

The first part of this new policy involves installation of collective pumps to ensure that by 2004 every South African has ready access to at least 25 litres of clean water a day within 200 metres of home. In addition, efforts are being made to install more private taps and to improve sanitation—an undertaking which is proving difficult as many communities have trouble paying for these new services.

The second part is more ambitious: to dismantle an apartheid-era system that reserves the precious resource for a rich minority. Black townships are a sorry sight of people lugging buckets or pushing rickety wheelbarrows filled with water containers. Yet the neighbouring suburbs are a lush haven where an average home has at least two bathrooms and a kitchen, while garden-hoses are left on for hours to keep the grass green in a city like Soweto.

In the countryside, women in Kwazulu-Natal are killed by crocodiles while farmers in the same area irrigate their crops almost for free. Not only do the latter have riparian rights to water on, under or adjacent to their property, but also they tap into sources located further away thanks to infrastructure subsidized by the state. Industries like forestry and mining also benefit from these subsidies. These sectors "have the lion's share of water allocation at the moment," says Mike Muller, Director General of the Water Affairs department. "There will have to be some sharing."

The right to collect water for subsistence

This is where the new National Water Act comes in. Approved by parliament in 1998, it is now becoming law. The old riparian rights will be replaced by licenses granted for water uses that bring social benefits, such as job creation and economic empowerment. Licensing preference will go to new actors, particularly emerging black farmers, while a review board will hear appeals from those who lose out as a result of the act.

The act entrenches the individual's right to collect water at the source for subsistence. "In many senses this is about liberating water from the tyranny of the landowner," says the Water Affairs Minister, Kader Asmal.

Under the current system, rich and poor families in Soweto, for example, both pay about 60 cents per cubic metre regardless of whether they use that water to fill a swimming pool or cook a meal. Under the new system, different rates will apply for different uses. The poorest people relying on collective pumps will pay about 80 cents per month—a fraction of the true costs—per cubic metre. When it comes to private taps, everyone will receive a basic supply of water at a minimum, subsidized price. For supplies above basic needs, about $1.60 per cubic metre will be charged, with an even higher rate for luxury uses like filling pools. Steep rates will also be fixed for large landowners and industrialists.

The mere idea of water-pricing has set off a political explosion. Parties representing the poor and black constituency, the African National Congress and the Inkatha Freedom Party, support the act. Yet opposition is virulent from the right-wing Freedom Front representing white farmers, the Democratic Party favouring business interests and the more broadly-based white Nationalist Party. ■

Ferial Haffajee in Johannesburg

In its youthful limpidity, water is an inverted sky in which the stars take a new life.

Gaston Bachelard (1864-1962), France

Mexico: the sweet smell of success

In Mexico's Jalisco State, a sugar mill has reduced its water consumption by four-fifths and cut its costs

The smell of burning sugar and the lengths of cut cane strewn along the dirt road point the way to the San Francisco Ameca sugar mill in Mexico's Jalisco state, the home of tequila, 73 kilometres from the city of Guadalajara. To the naked eye, the mill seems just like any other, with its tall chimneys, the sound of escaping steam and the comings and goings of its workers. Yet this factory stands apart. Until four years ago, the mill needed 15 litres of water to produce one kilogram of sugar. Now it uses only three litres.

Besides reducing production costs, this "miracle" is of direct benefit to the river Ameca, the mill's main source of supply and one of Jalisco's three largest rivers.

"We have made all these changes at the mill because we are convinced of the need to show concern for the water supply problem and also because water is becoming an increasingly expensive item," says chemist Matilde Osorio Cruz, head of the mill's manufacturing laboratory. In the space of five years, the price of water, a basic ingredient in sugar production, has risen fifteenfold.

An image of St. Francis is displayed near to the gates of the factory, which was founded in 1903. From that time until barely four years ago, sugar production required enormous amounts of water, which was drawn from the river Ameca. At the end of the process, most of the waste water was discharged back into the river and contaminated it. Unlike metals or other types of toxic chemical waste, the by-products of sugar, consisting chiefly of molasses, are eventually absorbed by the river but consume a considerable amount of oxygen, thereby depriving fish and plant life of sustenance.

UNIDO, Vienna

Mending an antiquated installation.

According to Osorio, as a result of the measures taken this problem has been completely resolved. "The first thing we did was to set up a water treatment plant," she says. "Then we started to use closed circuits in which the water circulates continuously through the different parts of the process without any of it being lost, as used to be the case." In practical terms, the system devised is somewhat similar to that of the bloodstream, in which the fluid circulates and is processed without having to be renewed.

Closed circuits to prevent waste

Among the innovations introduced, Osorio cites the creation of a cooling tank to bring down the temperature of the water, which is very hot when it emerges from one part of the process, before using it again. The tank looks like an enormous fountain, since the system consists of a set of perforated pipes through which the water gushes before cooling in contact with the air. Thanks to the system, the water temperature is reduced from 45° to 38°C. Once the water has cooled, it is fed back into the system.

The project was made possible through support provided by the United Nations Industrial Development Organization (UNIDO), with the participation of Mexico's National Chamber of the Sugar and Alcohol Industry, the Group of Sugar-Exporting Countries of Latin America and the Caribbean (GEPLACEA) and the National Autonomous University of Mexico (UNAM). Similar systems are being used at the Motzorongo and El Potrero mills in the Mexican state of Veracruz.

The San Francisco mill is the pilot plant of the Beta San Miguel group, which owns a further four mills in Mexico, to which it plans to extend the water-conservation experience gained at Ameca.

According to information provided by UNIDO, its $493,000 loan to the mill could be recouped in two years as a result of cost savings. Sergio Miranda Cruz, the UNIDO official behind the technical studies culminating in this experiment, considers that "the results have been so positive that the project could develop into a full-scale programme. But quite frankly we have not yet reached that point."

The sugar-cane harvest started in November 1998 and will go on until May 1999. The machinery works night and day. The mill will produce some 100,000 tonnes of sugar and will consume 3,156 cubic metres of water per tonne produced. For the mill's technical staff and workers, optimizing water consumption and improving sugar quality present a difficult but rewarding challenge. ■

Juan Carlos Núñez in Guadalajara, Mexico

India: Calcutta plugs its deficit

Short of money to overhaul an antiquated water system, the Indian city may have opened a pandora's box by extending the coverage of its water tax

Standing in a long, winding queue, Ratan Das eagerly awaits his turn to get a bucket of water from the public tap in Topsia slum in southern Calcutta, capital of India's West Bengal state. Das, like the 200 other people who live in the slum and are dependent on the tap, is anxious to reach it before the water stops flowing. If he misses out now, he will have to wait another four hours, sometimes even more, to get his fill.

Not far from Topsia, Meenakshi Mukherjee, a middle-class housewife living in a one-room flat, has an array of vessels under the single water tap in her house. She needs to store as much water as possible before the pipe stops pumping out water and instead coughs out air.

Will the poor foot the bill?

The travails of Das and Mukherjee in their daily struggle for water are typical for Calcutta and its five million people. The city's antiquated distribution network, built mostly during British rule in India, has long since been unable to cope with the strains of population growth. Meanwhile, the impoverished state government has lacked the money needed to overhaul the crumbling water system. As a result, the leftist state and municipal governments are now extending their water taxes to the middle classes. Poor people fear they might be next in line to pay tax on water.

The decision to extend the water tax—which hitherto has been paid only by the rich and by commercial users—was taken by Calcutta's Marxist-dominated city government last month. The tax has been introduced under World Bank pressure in return for loans to help refurbish the city's hydrological infrastructure.

The new tax will be applied to all buildings four or more storeys high—the kind of residential buildings popular amongst the middle class. It will in effect cover an extra 10 per cent of city residents and will hopefully raise $5 million a year, helping to plug the municipal government's $17.5 million a year water systems budget deficit. Currently, only five per cent of domestic users pay water tax. Commercial users account for 95 per cent of the annual $2.4 million now raised from the water tax.

Water, like a skin that no one can wound.

Paul Eluard (1895-1952),France

Ablutions in a Calcutta street.

© Baldev/Sygma, Paris.

A cutback on public taps

Meanwhile, to cut down on waste due to leakage through antiquated pipes, the government will close 600 of the 12,000 public water taps. For Calcutta's 1.2 million poor, these public taps are the only form of access to water. The cutback on taps has raised serious concern among slum and pavement dwellers. "Today I have to wait for hours to get a bucket of water. If they close the tap in my slum where shall I go?" asks Mohammed Saleem, who lives in Entally slum in east Calcutta.

I have to wait for hours to get a bucket of water. If they close the tap in my slum where shall I go?

The government reckons that the public's criticism of the water tax is the price it has to pay for the water system to be improved. In return for its tough tax reforms, the government hopes to get World Bank help to revamp the city's entire water and sewerage system. Currently the World Bank is undertaking a $ 2.5 million feasibility study for a water systems overhaul which could cost $200 million.

Hopefully, the new tax revenues will help the city improve water quality as well as quantity. "It is unsafe to drink water directly from the pipes in Calcutta," says Arindam Ghosh, a scientist at the National Environmental Engineering Research Institute. According to Ghosh, the existing water treatment plants in the city cannot remove hazardous chemicals dissolved in the water, taken directly from the heavily polluted Ganges. As a result, water-borne diseases are common. ■

Tirthankar Bandyopadhyay in Calcutta

Now you see it, now you don't...

Thirsty countries in the Middle East are compensating for dwindling water supplies by importing 'virtual water' in the form of wheat and other farm crops. Below, Prof J.A. Allan, a water specialist at London University's School of Oriental and African Studies, outlines the issues surrounding a controversial policy and concept whose wisdom is widely questioned (see article page 31).

© David O'Leary/Panos Pictures, London

Watering nursery plants in the Syrian oasis of Palmyra

A convenient solution

J.A. Allan*

Wars will be fought for water. The dire prediction persists years after it was voiced by such leading figures as Jordan's King Hussein and Boutros Boutros Ghali of Egypt. Indeed, according to this gloomy scenario, the Middle East and North Africa appear to be doomed. This area, known as the MENA region, was the first in history to run out of water in the 1970s, in the sense that it became unable to meet all of its needs. But before panicking over the pessimists' predictions, consider a critical factor. The region's leaders have managed to tap into a major source of water hydrologists neglect to mention: virtual water, not actual water but that embedded in commodities like wheat.

It would require an inhuman level of courage for a political leader of a country that has enjoyed water security for 5,000 years to announce that supplies are no longer adequate. Instead, leaders insist that supplies are "sufficient". But this is deceptive. Supplies are "sufficient" for the small amounts needed for drinking: one cubic metre per year per person. They may also cover current domestic and industrial needs, although both of these are on the rise. But there isn't enough fresh water to cover these demands in addition to the tremendous amounts needed for food production. It takes at least 1,000 cubic metres of low quality water to raise the amount of food an individual

* Professor, Water Issues Group, School of Oriental & African Studies, University of London

Accounts of water needed to produce food items in the MENA region

Product	Unit	Equivalent water in 1 000m^3 per unit
Bovine, cattle	**Head**	**4**
Sheep and goats	**Head**	**0.5**
Cereals	**Metric ton**	**1.5**
Meat bovine fresh	**Metric ton**	**20**
Meat poultry fresh	**Metric ton**	**6**
Meet sheep fresh	**Metric ton**	**10**
Citrus fruits	**Metric ton**	**1**
Palm oil	**Metric ton**	**2**
Pulses	**Metric ton**	**1**
Roots and tubers	**Metric ton**	**1**

Source: FAO, 1999

© Shirley Baerinholz/Uneair, Arnhem

Sprinklers irrigate Israeli tomato fields.

needs in a year.

Instead of paying the political costs of publicly recognizing this deficit,leaders rely on the convenient solution of "virtual water". To raise a tonne of wheat, you need 1,000 tonnes of water. Importing a million tonnes of wheat is the equivalent to importing a billion tonnes (cubic metres) of water. Since the end of the 1980s, the MENA region has been importing 40 million tonnes of cereals and flour annually. More virtual water "flows" into the region each year than flows down the Nile into Egypt for agriculture.

Piping desalinated water to desert farms

Not only is this virtual water readily available,it is extraordinarily cheap. Wheat prices have been falling for the past century. On the current agricultural market which is dominated by the United States and the European Union, wheat is traded at about half the production cost.

So it seems that the MENA region is simply making the most of the situation,importing a highly subsidized product containing a precious resource. Yet depending on international trade for such a vital resource is not socially acceptable in these countries nor is it a strategically secure policy. This partially explains why in the United Arab Emirates desalinated water is either piped kilometres to reach farms in the desert or soil is actually moved from one area to another to build new farms for greater food self-sufficiency. Up until 1991,Saudi Arabia used significant amounts of fossil water—which is extraordinarily pure but non-renewable—to grow corn. "The Great Man-Made River Project" is Libya's solution to achieving greater food self-sufficiency. The plan is to pump water from deep wells in the north of the country and then send it through underground pipes to irrigate about 200,000 hectares along the Mediterranean coast at an estimated capital cost of $25 billion.These are

© Ed Kashi/Rapho, Paris

Harvesting wheat in Syria.

What joy
to cross the summer
river,
sandals in hand!

Buson
(1715-1850), Japan

Estimates of the 'virtual' water contained in the MENA region's food imports (1994)

Country	Water equivalent in 1 000m^3 of net imports (1994)
Algeria	**12 397**
Bahrain	**680**
Egypt	**18 171**
Iran, Islamic Republic of	**11 519**
Iraq	**2 180**
Jordan	**3 467**
Kuweit	**2 784**
Libyan Arab Jamahiriya	**3 237**
Mauritania	**-2***
Morocco	**2 419**
Saudi Arabia	**13 863**
Syria	**1 014**
Turkey	**-3 468***
United Arab Emirates	**3 362**
Yemen	**3 375**

* Negative figures indicate that export exceeds import, e.g.Mauritania,a net exporter of animals, and Turkey, a net exporter of cereals and animals. Source: FAO, 1999

extreme examples. But consider the case of Egypt, where about 90 per cent of the national water budget goes to agriculture and yet another 7.5 million tonnes of grain, equivalent to 7.5 billion cubic metres of virtual water, were still imported last year to feed the population of about 63 million.

By downplaying the role of virtual water,there is a risk that countries will undervalue their own resources and put off innovative and painful policies. Irrigation water is almost free in Egypt, which makes for a very expensive policy. The same water could bring a hundred times more in returns in the industrial or service sectors. However, there are major political costs involved in such a transition. Almost 40 per cent of the labour force works in agriculture, while most farmers have less than two hectares each. These people cannot suddenly be expected to pay for water or abandon their livelihoods. Time is required to change people's perceptions of water and to develop a diverse economy capable of creating new jobs in other sectors.

Israel is an interesting case in point. This was a country committed to making the desert bloom. Its farmers have the means to employ the most efficient irrigation systems. And yet,during the past ten years,the government has shown that it is possible to reduce water allocations to agriculture. It is one of the few countries in the world to charge a high proportion of the delivery cost (40 per cent) for irrigation water. But the current prices would have to double or even treble for the real cost of water to be recovered.

Other MENA countries,like Jordan, Tunisia and Morocco, are starting to take the same approach. The trade in virtual water could offer more time and ease the political tensions in making this difficult transition. Or it could be used to avoid dealing with a very real problem. ■

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Egyptian fellaheen have little choice but to use traditional irrigation methods.

An economic **mirage?**

It's like trying to get water out of a stone. Across the Middle East, government officials refuse to discuss the issue of virtual water publicly. Even academics are reluctant to express their views on the topic. Why such silence? After all, publicly-available statistics clearly indicate the region's wheat imports are rising, and there is reason to believe that this trade will continue as countries seek seemingly inexpensive and readily available sources to compensate for dwindling water supplies. Technological solutions seem unlikely to tackle the scarcity problem. With falling oil prices devastating government revenues, even wealthy countries like Saudi Arabia are finding desalinization increasingly unaffordable.

In part, the silence stems from the political climate. "There are a lot of negotiations going on right now on various security issues, including water-sharing agreements. Any information linked to water scarcity is sensitive," explains Mamdouh Shahin, a Netherlands-based Egyptian professor of civil engineering widely respected in the Middle East for his hydrological assessments of the region.

Virtual water also has a dirty name among the region's hydrologists and policy-makers who balk at the notion that governments should import food crops instead of growing them. Yes, the region is faced with a water crisis. Yes,importing wheat is an effective means for dealing with the problem. But does this mean that countries should abandon their ▷

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Making every drop count with drip irrigation on a farm near Amman (Jordan).

agricultural sectors, or make their farmers pay prices reflecting the real costs of irrigation?

"I disagree with the suggestion that we should totally depend on virtual water to feed our people," says Shahin. "Virtual water is one solution. But we need a basket of solutions—by conserving and developing conventional and non-conventional water sources like harvesting fog residue or re-using drainage waters from irrigation and urban uses."

Don't overcharge the farmers

Complete agricultural self-sufficiency may well be impossible in the region. But for Shahin, this does not mean that governments should abandon the goal of improving harvest yields. "Food imports are even more strategically sensitive than energy imports. You can live without oil, but not without food," says Shahin. He notes that one danger of virtual water is that importing nations would be vulnerable in the event that grain producing countries cut subsidies to their farmers, potentially leading to significantly higher prices.

"Water for irrigation will remain a free commodity as long as people remain so poor. This is in the interest of the people and the administration," says Shahin.

Food imports are even more strategically sensitive than energy imports. You can live without oil, but not without food

Currently many irrigation systems are wasteful, and given the low price of water, there is little incentive to introduce technology that would improve efficiency and cut down waste. But, Shahin says, the solution doesn't lie in pushing farmers from their livelihoods by charging them for the water they use. Instead, he proposes investing in more efficient irrigation systems, like drip irrigation in which perforated pipes installed just below the soil surface release small amounts of water directly to the crops' roots—a system which reduces evaporation and seepage. The challenge lies in finding capital to finance technological improvements.

Shahin also points out that there are strong religious objections to charging for water. "According to the Koran, if you find someone who needs water but is unable to reward or compensate you in any way, you must give them some for the sake of God's blessing and mercy," he says. "So in countries like Egypt and Syria, rivers are considered a gift of God. And since the people are too poor to compensate the government for the price of delivering that water, there is no charge."

How wide the world was, how close the trees to heaven, and how clear in the water the nearness of the moon!

Meng Hao-jan (689?-740), China

Virtual imports vs. virtual exports

The concept of virtual water also comes under attack from an economic perspective, says Jad Isaac, director-general of the Applied Research Institute of Jerusalem, a non-profit organization for sustainable development in Palestinian territories. "If we are going to talk about virtual imports," he says, "we should also consider our virtual exports (of fruits and vegetables) to Europe and the United States." For Isaac, the question is not whether countries should abandon their agricultural sectors, but rather, which types of agriculture should be given priority: wheat for food security, or high value cash crops like vegetables and fruits? "It's all about economics and following market forces," Isaacs says. "With globalization, there is not a country in the world that can declare itself self-sufficient."

"Whether we like it or not," says Isaac, "water is a finite resource. It would be totally wrong to use it uneconomically." According to Isaac, government has the responsibility to provide free water for domestic needs. But agriculture is an economic activity and so farmers should pay for irrigation. "It has to happen, but slowly because such a large part of the labour force depends on agriculture. You cannot suddenly transform developing countries into industrialized ones," he says.

Even highly developed nations like Israel, which receives tremendous financial and other forms of assistance from the United States and other Western governments, have failed to adopt an economically efficient agricultural policy. "Many think there has been a change in Israeli policy, but the government is still subsidizing water," says Isaac. He notes that Israel has one of the region's highest percentages of irrigated agriculture—about 50 per cent of its arable land—but that agriculture contributes less than two per cent to the economy. On the other hand, Isaac notes that the Palestinian agricultural sector represents about 20 per cent of the economy, even though only six per cent of its arable land is irrigated.

"The Israeli policy doesn't make sense," says Isaac. They should give the water they took by force back to the Palestinians who can do more in their development with it." With a gross national product (GNP) of about $17,000 per capita, Isaac maintains that Israel can afford to orient its economy towards high-technology sectors and depend less on farming. In contrast, Palestinian per capita GNP is about $1,000 and dependent on agriculture, says Isaac. That is why Palestinians should continue to develop farming in the short term, while gradually building an industrial base. Says Isaac: "It's like a baby. First he crawls, then he walks and then he learns to run." ■

Amy Otchet

Custom-built solutions for international disputes

Joseph W. Dellapenna*

Customary law provides a sounder basis than market forces for water sharing in international river basins

Is it any wonder that the English word "rival" derives from the Latin "rivalis", meaning people who live on opposite banks of a river? All of the 214 largest river basins in the world—home to about 40 per cent of the globe's total population—are used by more than one nation. Even the most cordial and co-operative of neighbouring nations have found it difficult to achieve acceptable arrangements for their transboundary surface waters.

As the world gropes for solutions to disputes over water resources, many who are concerned about water issues are increasingly attracted to the idea of setting up free market trading systems for water. However, market solutions to establishing sovereignty over and control of water resources are fraught with danger. Rather, we should look to the body of international law that countries have been slowly developing by drawing on ancient principles of sharing dating back centuries.

It must be noted at the outset that countries have recognized that water is too vital a resource for nations to go to war. Throughout the many wars fought in the twentieth century, water facilities have by and large escaped unscathed. In the three major wars between Pakistan and India, for example, water could have been used as a formidable weapon by both sides. Not only did they both refuse this deadly option, they implemented water sharing agreements even as bullets were flying. Low-level violence punctuated by full-fledged war has been simmering in the Jordan Valley since the 1920s between Israel and the neighbouring Arab nations. Yet you can count on one hand the number of times water supplies have been specifically targeted.

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An engineer working on the King Talal dam, which supplies water to Jordan valley farms.

However, the absence of "water wars" does not mean that there aren't serious disputes brewing, particularly in arid regions like the Middle East

* Professor of International Law, Villanova University, Pa., USA

Four international rivers

The Jordan

The river: The 93-km-long Jordan drains part of the territories of Israel, Jordan, Lebanon and Syria, four of the states most involved in regional hostilities in the last half century. It rises in four tributaries, the Yarmouk in Syria, the Banias in the Israeli-occupied Golan Heights, the Hasbani in Israeli-occupied southern Lebanon, and the Dan in Israel. By virtue of the 1967 war and the "security zone" created in south Lebanon in the early 1980s, Israel is the upstream riparian on the upper Jordan system; Syria is upstream on the Yarmouk.

Problems and prospects: Jordan and the Palestinians, as downstream riparians of Israel and Syria, are in the worst position in the basin. Jordan's dependence on the river system is particularly great, since apart from a few wadis—watercourses that are dry except in the rainy season—it has no other important sources of fresh water. Three attempts have been made to establish an international water management regime (in 1953-55, 1976-81, and 1987-90) but each came to a halt because of an inability to include all riparian states in the proposed arrangement. A water resources working group was set up as part of the Middle East peace process in 1995 and 1996, but water politics specialist Miriam R. Lowi of the Center of International Studies at Princeton University notes that "the implementation of a water agreement will not be effected until the political conflict has reached closure."

Four international rivers

The Nile

The river: The Nile is 6,700 km long from its most distant source to its mouth in the Mediterranean, and drains one-tenth of the African continent. The river system is composed of two major tributaries, the White Nile and the Blue Nile, which rise in Lake Victoria (Kenya, Rwanda, Tanzania, Uganda) and Lake Tana (Ethiopia), respectively. The nine nations of the Nile basin are Rwanda, Burundi, the Democratic Republic of the Congo, Tanzania, Kenya, Uganda, Ethiopia, Sudan and Egypt.

Problems and prospects: The vast majority of the river's flow, estimated at 84 billion m^3 annually, is used by Egypt, by virtue of a 1959 treaty between Egypt and Sudan which allocates to the two countries an amount of Nile water that adds up to nearly 90% of the river's annual flow. Upstream nations such as Ethiopia want to harness the Nile's waters to provide economic prosperity for their growing population and are challenging Egyptian and Sudanese claims.

where already scarce water supplies are in unprecedented demand as populations grow and lifestyles change with greater industrialization. These disputes are generally in the form of diplomatic controversies, although sometimes more dramatic confrontations arise. Every transborder water resource is coveted by the countries that share the resource. They carefully monitor the amounts used by neighbours.

Markets are now much in vogue as ideal institutions for resolving disputes over control of water resources and for managing the use of those resources efficiently. Basically, the aim is to set up a trading system by which water-rich countries sell supplies to those in need. Theoretically, markets ensure efficiency and peace. Countries don't dare waste a resource for which they have paid dearly. At the same time, the market supposedly helps resolve water disputes: if one country infringes on the "property" of another, compensation can be sought in a court.

A resource with no respect for borders

Twenty years ago, few experts or policy-makers would have considered such a proposal seriously. Today, the concept is gaining ground thanks to the active promotion of major lending institutions like the World Bank and other multinational organizations. Part of the enthusiasm derives from the triumph of Western-style free markets and the assumption that there are no credible alternatives for efficiently managing resources. But the market supporters overlook a critical fact: water, unlike every other natural resource except the air we breathe, is ambient. It moves. It doesn't respect borders and so cannot be controlled by any single entity. Yet for a market to work, clear ownership rights have to be recognized before any good can be traded. But how can you determine who owns a resource which ebbs and swells as it moves from one country to the next?

True water markets have rarely existed in the past, and there is little reason to believe they will in the future. A cursory look at the case of the Nile Valley highlights the limitations of market-approaches.

The Blue Nile flows from Ethiopia to Sudan and on to Egypt. As is commonly the case, countries lower down the basin tend to be richer and more developed than those further up. This is because small rivers and streams feed into the river as it flows, bringing water and nutrients that leave the lower basin more fertile. Furthermore, the lower basin generally is relatively flat, while the upper basin generally is mountainous, making agricultural development easier in the lower basin. Indeed, Egypt, with a per capita gross domestic product of $630/year, is wealthier than Sudan (GDP $540/year), and both countries are far more affluent than upstream Ethiopia (GDP $120/year).

Nevertheless, Ethiopia does get the water first. One might think, therefore, that the Ethiopian government is in a position of strength and can do what it wants with the Blue Nile. It could build a

You are wrong: in the Tigris the thirsty find no path to water, nor any provision in its foam....
And you are bent like a bulrush on the wild bank, propped on your hand.
And the only sustenance is to bite the palm of your hands, the only water, your scattered tears.

Ibn Babik (d.1020), Baghdad

dam, for example, or develop irrigation systems. Ethiopia, however, is too poor to pay for this kind of infrastructure on its own. Egypt, which fears any interference that might interfere with the flows of water down the Blue Nile, has succeeded in using its political clout within multilateral lending organizations like the World Bank to block Ethiopia's applications for financial assistance to exploit the river. (The situation may be changing, however, as the Egyptian government recently let pass an Ethiopian loan application with the World Bank for a small-scale irrigation project.)

Who owns what?

Ultimately, Egypt claims an absolute right to the integrity of the river. According to this principle, Ethiopia should do nothing that might affect the quantity and quality of water currently flowing to Egypt. But such a claim deprives Ethiopia of any means of developing its agriculture and condemns the country to continued dependence on international food aid to stave off mass starvation.

Imagine that Egypt and Ethiopia decide to set up a water market. How would they resolve their differences? Ethiopia in theory could buy the right to develop the river from Egypt, although in practice the price of such a right is likely to be much higher than it could afford. Or Egypt could compensate Ethiopia for foregoing the Blue Nile's development—another unlikely scenario because Egypt considers that it already "owns" the waters it uses.

The major flaw in any market "solution" is the failure to determine clearly who owns what. There are groups of water experts and policy-makers in Israel and Jordan, for example, who would like to set up a water trade in the region. On the one hand, the Israelis, who control the source of the vital Jordan River, say that Palestinians should buy water from them. And on the other, Palestinians insist that the Israelis stole the water from them and should now pay for it.

Let's imagine that two countries did manage to clarify any ownership disputes and began trading in water. What about third parties further downstream? Water isn't like mineral resources. Russia can mine coal and sell it around the world and neighbouring countries barely notice. But try selling part of a river from one region to the next without downstream neighbours causing an uproar.

The solution to water scarcity lies not in building water markets but in consolidating the rules for sharing found in customary international law

For years, the Turks have discussed a proposal to sell water from the Euphrates to Israel. About 98 per cent of that river's flow comes from rain and snow on Turkey, which has built one of Asia's largest dams to capture and control these waters. However, the Turkish government doesn't have the money to build all the infrastructure needed to use the water for irrigation in Turkey. The Turks could sell the water to Israel or various Arab nations by building a pipeline across Syria to the Jordan Valley or the Arabian peninsula. Perhaps a more realistic option would be to pipe the water to Turkey's Mediterranean coast and then ship it by tanker.

Aerial view of Turkey's Ataturk dam on the Euphrates.

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Claims and counterclaims

Such a deal would have serious repercussions for Iraq and Syria, Turkey's downstream neighbours, who depend on the Euphrates. Imagine that Turkey did use the dam's reservoir for irrigation. Downstream nations would still reap benefits because much of the water used would still reach them. Run-off from irrigated fields would feed back into the river, and the water that evaporates in the reservoir and the fields would eventually return through the water cycle. But by shipping Euphrates water outside the valley, the Turks cut off these benefits. The only option available to Iraq and Syria would be to buy the water to which they feel a natural right. In my opinion, the solution to water scarcity lies not in building water markets but in consolidating the rules for sharing found in customary international law. To better understand the concept of customary law, consider an analogy. Suppose there is a field between two villages. Gradually, most people going from one village to the other come to follow a particular line across the field, perhaps the shortest or easiest route. Their numbers wear a path into the landscape which becomes a road. Eventually, all agree that this road is the only

Four international rivers

The Mekong

The river: From its source in the Himalayan peaks of Tibet, the Mekong flows for 4,200 km through China's Yunnan province (population 38 million) and through Myanmar, Laos, Thailand, Cambodia and Viet Nam, countries populated by around 190 million people, many of them poor.

Problems and prospects: The river flows through an area which has been at war for much of the century. Regional institutions including the Mekong River Commission (Cambodia, Viet Nam, Laos and Thailand) are working to turn the Mekong into a "channel of commerce and prosperity—Asia's Danube", by exploiting possibilities for mutual benefit and opening up a vast new market in this region where cross-border links are often rudimentary. Finance is proving to be a major challenge, however. Some dam schemes to generate hydropower alarm environmentalists who warn of problems ranging from the intrusion of salt water into the delta to loss of rare species. China is building a dam in Yunnan from which electricity may be sent across Laos to Thailand. It claims that the project will help river flow and benefit downstream nations, but there are anxieties among low-lying countries because of the upstream dam's capacity to radically alter the river's flow, which would disrupt ecological balances.

Four international rivers

The Danube

The river: The Danube is Europe's second largest river, with a watershed area of 817,000 km^3 in seventeen countries. The main channel of the river flows through Germany, Austria,Slovakia, Croatia,Hungary, Yugoslavia, Bulgaria,Romania.

Problems and prospects: Pollution by nitrogen and phosphorus from agriculture, and toxic substances from industries and cities. Hungary and Slovakia are still divided by a long-running dispute over the Gabcikovo-Nagymaros dam project that was referred to the International Court of Justice in The Hague. In 1997 the court ruled that both countries were at fault—Hungary when it cancelled work on the project in 1989 and withdrew unilaterally from a 1977 bilateral agreement, Slovakia by diverting the Danube onto its territory without attempting to work out the disagreement with Hungary.

right way between the villages even though no one can say precisely when this notion took hold. At that point, people consider those who take a different path as trespassers. And so we find a legal norm and not merely a factual description of a path.

Today there is a well developed body of customary international law that governs the rights of nations in internationally shared sources of fresh water. That body of law develops through a process of claim and counterclaim, with the nations making the claims appealing to legal rules to establish their rights. All nations agree that only riparian nations—nations across which, or along which, a river flows—have any legal right,apart from an agreement, to use the water of a river. Beyond that,however, there are two types of international claim. The upper-riparian nations initially base their claims on *absolute territorial sovereignty*, typically claiming the right to do whatever they choose with the water regardless of its effect on other riparian nations. Downstream nations, on the other hand, generally make a claim to the *absolute integrity of the river*, insisting that upper-riparian nations can do nothing that affects the quantity or quality of water flowing.

Equitable utilization

The usual solution to these contradictory claims is found in a concept known as *equitable utilization:* each riparian nation recognizes the right of the others to use water from a common source.At the same time, there is an obligation to ensure that the way in which one riparian nation uses water does not unreasonably interfere with similar uses of other nations further downstream. Under this principle, countries usually decide on how much water is allocated to one state or another by looking for some more or less objective standard such as historic patterns of use or the amount of land that could be irrigated in each nation. They also take into account "objective" factors, like the need for more water for growing populations.

Customary law does something that the market cannot: it recognizes the unique nature of water. Instead of trying to determine who "owns"what proportion of a river, it lays down a set of rules for sharing.

Of course, there are at least two problems with this kind of informal law. To begin with, the principle is too vague to determine a nation's "fair" share. Second, there is no neutral way of enforcing the rules. So when a violation occurs,the only recourse often available is the law of the vendetta.

But these problems are just part of the natural course of developing any form of customary law. At some point, rules have to be set down on paper and codified.Indeed,nations have hammered out hundreds of agreements in the attempt to define what constitutes fair sharing of a particular waterway. The international community took a major leap forward about a year and a half ago by approving the United Nations Convention on the Non-Navigational Uses of International Watercourses by a vote of 104 to three. It will unquestionably be the leading law governing internationally shared fresh waters once it is ratified by 35 nations—a process that could take a decade or more. The convention provides a set of standards in codifying the rule of equitable utilization based on a long list of diverse factors—from geographic and ecological considerations to the economic value of existing and potential uses of the waterway. The aim is to help arbitrators and judges determine "equitable"sharing, which should not be confused with equal shares.

The convention is a legal document, not a magic formula. Disputes will continue. But instead of resorting to the law of the vendetta, nations can now seek legal resolution. The rule of equitable utilization can also serve to channel the negotiations between riparian neighbours should they prefer to resolve the matter by treaty rather than by arbitration or litigation.

The convention reflects not only logic, but need and power—which amounts to a far more balanced and sophisticated approach to managing water than simply relying on a free market. ■

On a carpet of flowers on the bank of the Nile we stayed; the waves transformed it into a face full of wrinkles.

Baha al-Din Zuhayr (d.1258),Egypt

Adoption: for **love** or **money**?

Racketeers are trying to make a profit out of couples in rich countries who want to adopt orphan children from the developing world. Twenty-five nations have now agreed to follow a code of conduct governing international adoption

They're in love. They live comfortably somewhere in the "first world". One day, they decide to have children. But the months and years go by without any "happy event". In the end, they go to a fertility expert. But fertility treatment doesn't always work and eventually becomes very distressing for the couple, who feel wounded because they can't fulfil their reproductive instincts.

As they become more and more deeply involved in medical treatment, the idea of adopting a child takes root. Why not open their lives to an unloved baby or youngster who has been abandoned and dumped in an orphanage? After all, the couple has lots of love to give and the means to bring up a family.

Since contraception became common and abortion tolerated in the world's rich countries, abandoned children, young or older, have become few and far between. At the same time, many more people, both couples and single persons, are seeking to adopt. As a result, adoption of children from poor countries by couples from the North has soared over the past 20 years (see box).

Long and tricky negotiations

With few exceptions, the process of adopting a foreign baby is a long and complex one, involving talks with social workers, doctors and psychiatrists. A lot of paperwork has to be done before consent is given. In most cases, the process is just as complicated in the child's country of origin, and the rules vary widely from country to country. "It's like an obstacle race," say parents who have been through it.

Yet scandals regularly come to light, mainly because dubious go-betweens in some poor countries take advantage of the rising demand for adopted children to relieve wealthy couples, tired of waiting for offspring of their own, of huge sums, sometimes as much as $60,000. Worst of all, these racketeers manage to trick needy mothers into parting with their biological children.

The Pablo affair shows the kind of pressures and manoeuvres that are typical of lawyers and people paid to find babies for adoption. They always go for mothers who are poor and illiterate.

The case of young Pablo in Guatemala helped to raise international concern. He spent the first year of his life in an orphanage while his fate provoked a legal battle. His natural mother, 30-year-old Elvira Ramirez Caño, had given her written consent for his adoption by a Spanish couple. But she claimed she had signed some kind of document in a moment of distress even before the child was born, because her husband had left her when he found out she was pregnant.

The Spanish couple's lawyer paid her money. But Guatemalan law allows a mother to renege on such an agreement, and with the backing of a charitable association, Caza Alianza, Elvira managed to get baby Pablo ☞

Heart and home

In the United States, 13,621 foreign children were adopted by American parents in 1997, twice as many as 20 years earlier, according to official figures. The children were mostly born in Russia (3,816), China (3,597), South Korea (1,654), Guatemala (788) and Romania (621).

France comes second after the United States among the so-called host countries. A total of 3,528 children from 70 countries were adopted by French parents in 1997, compared with 971 from 10 countries in 1979. Nearly half the children adopted by French parents come from Viet Nam, followed by Colombia, Madagascar, Russia, Brazil, Guatemala, Romania, Bulgaria and Ethiopia.

The geography of international adoption varies considerably, sometimes from one year to the next. South Korea, for example (which provided 66 per cent of foreign adoptions in France in 1979), sharply restricted foreign adoptions after the Seoul Olympic Games in 1988. As in India and China, prospective parents now have to go through a recognized organization.

In China, where intercountry adoption only began in 1991, the rules were eased last year to give relief to orphanages overcrowded with little girls—the Chinese are only allowed to have one child if they live in a city and two if they live in the countryside. In Romania, a large number of orphans were adopted after the fall of Ceausescu in 1989, but very strict rules have now been introduced. In most Muslim states, adoption is impossible, either for local citizens or foreigners. ■

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Open arms for a child with an uncertain future.

back in August 1998, not long after his first birthday. This was the first time a Guatemalan court had ever returned a child to its natural mother after a dubious adoption.

"The Pablo affair shows the kind of pressures and manoeuvres that are typical of lawyers and people paid to find babies for adoption. They always go for mothers who are poor and illiterate," say officials of Caza Alianza, whose lawyers are handling the cases of 17 other such mothers. The association reckons that about 440 children have been fraudulently adopted in Guatemala since 1996, a year which saw the end of a 36-year civil war in which more than 100,000 people died.

Guatemala, a crackdown on racketeers

Not many countries have such simple adoption procedures as this poor Central American state. A notary obtains the consent of one or other of the child's biological parents, and then lawyers acting for the adoptive parents present this document and a social report to a juvenile court judge who decides whether or not the adoption can go ahead. In the case of orphans and abandoned children, the judge has to certify first that their parents have vanished or are unknown. In each case, a lawyer is necessary.

Lawyers seem to be in collusion with doctors, nurses and social workers who pressure mothers to let go of their children. They are then placed with foster mothers known to the lawyers in 'clandestine orphanages'

So Guatemala has become a favourite destination of Western couples looking for a foreign child to adopt. The number of requests received rose from 900 in 1996 to 2,304 in 1997, most of them from Americans, French and Canadians. Officials in all three countries have stepped up their warnings about the risks of adopting Guatemalan children.

"Lawyers seem to be in collusion with doctors, nurses and social workers who pressure mothers to let go of their children. They are then placed with foster mothers known to the lawyers in 'clandestine orphanages'," says the International Adoption Mission, France's official body responsible for monitoring the arrival of adopted children in France.

Compulsory DNA tests

The Canadian consulate in Guatemala City has uncovered another racket, even worse. Several mothers who gave adoption consent to a judge were found not to be "their" child's natural mother after undergoing DNA tests. The babies had been taken from their real mothers at birth in the countryside by women who were paid to say it was they who had given birth to them.

Canada now requires DNA tests to be

carried out by accredited doctors on the mothers of all adopted babies from Guatemala before the children are allowed into the country. The United States announced in October 1998 that it would do the same. The Guatemalan authorities have called on local judges to be more vigilant until stricter legislation is passed by parliament.

In Brazil, where rules for foreigners adopting children are very strict on paper, 94 women demonstrate regularly in the town of Jundiai, near São Paulo. Apart from the fact that they are all poor, they have all had their children taken away from them by a judge who sent them to a centre which works hand in glove with an Italian adoption organization. An enquiry is going on. In Viet Nam, taxi-drivers, hotel managers and travel agents openly offer, illegally and for money, "guidance" for Western parents seeking to adopt.

Scandals like these, and others that came to light in Eastern Europe, Africa and Asia, helped to convince the international community of the need for a legal instrument to establish principles for intercountry adoption. The Convention on the Protection of Children and Co-operation in Respect of Intercountry Adoption was signed in The Hague in 1993 and came into effect two years later.

Respect for the child's origins

The Convention bans any "improper financial or other gain" and "the abduction, the sale of, or traffic in children" and obliges each signatory state to establish maximum safeguards to prevent it. So far, 21 countries have ratified the Convention,[1] including Colombia, France and Australia in 1998, and four others have acceded to it.

In practice, anyone wanting to adopt a child must make a formal application, either directly or through an NGO of their choice, to the "central authority" of their own country, which will send the request to the central authority of the country in which the applicants wish to adopt a child. This measure has already reduced the number of clandestine adoptions between contracting countries. Before the request is sent to the foreign country, the adopting country is required to check whether the prospective parents are "eligible and suited to adopt" according to the laws and procedures of both countries involved.

The convention also forbids any "contact between the prospective adoptive parents and the child's parents" until all the requirements have been met. The authorities of the child's country of origin must ensure that the consent of the biological mother (and father if he is identified) has been "freely given" and has "not been induced by payment or compensation of any kind."

The convention also stipulates—like the 1989 United Nations Convention on the Rights of the Child—that foreigners can only adopt a child if foster parents have not been found in its own country and if it is "in the best interests of the child", whose origins must be respected as far as possible.

'Many mothers come to us because they want to give up a child they can no longer afford to bring up. We do all we can to dissuade them and help them. But here, as everywhere else, the first thing to do is to stem the tide of poverty'

In the same spirit, several countries require foreign prospective parents, or the social services of the adopting country, to make regular reports on the child's progress to its country of origin. This "follow-up period" is 10 years in the case of Sri Lanka, four for Peru, three for Paraguay and two for Romania.

The growth of intercountry adoption has often led to more child adoptions within the country of origin. In Peru, the authorities have mounted local media campaigns to ensure that abandoned children are "offered" for adoption to Peruvian couples as a first choice. "Many mothers come to us because they want to give up a child they can no longer afford to bring up," says a Peruvian adoption official who asked not to be named. "We do all we can to dissuade them and help them. But here, as everywhere else, the first thing to do is to stem the tide of poverty." ■

Martine Jacot

1. The Convention so far includes 15 countries where children are sought for adoption (Burkina Faso, Cyprus, Colombia, Costa Rica, Ecuador, Lithuania, Mexico, Moldova, Paraguay, Peru, the Philippines, Poland, Romania, Sri Lanka and Venezuela) and 10 countries whose nationals adopt them (Andorra, Australia, Canada, Denmark, Spain, France, Finland, Norway, the Netherlands and Sweden).

Ukrainian educators win UNESCO peace education award

The UNESCO prize for peace education, which was created in 1980 thanks to a gift from the Japan Shipbuilding Industry Foundation, is awarded each year in recognition of efforts to mobilize public support for peace. Educators for Peace and Mutual Understanding, a Ukrainian non-governmental organization, won the 1998 prize, comprising a statuette symbolizing peace by the Spanish sculptor Fenosa and a cheque for $25,000. The award ceremony was held at UNESCO's Paris Headquarters on 15 December 1998.

Educators for Peace and Mutual Understanding trains teachers at all levels to spread the ideals of peace, human rights and the rights of the child. Founded in Kiev in 1990, this voluntary association independent of religious or political affiliations brings together 170 educational institutions (clubs, centres and other public bodies) dedicated to helping people live in harmony with nature, with others and with themselves.

The NGO organizes conferences, seminars, workshops, publications, ecological expeditions, visits and exchanges of teachers and pupils. Hundreds of educators have taken courses at its university of peace studies and training. One of its latest international projects, Youth Collaboration, organized with the city of Munich, helps young people deal with problems of social adaptation in the urban environment. An e-mail scheme twins schools in Ukraine, the UK and Florida.

Three other non-governmental organizations received honourable mentions: the Fridtjof Nansen Academy (Norway), which is promoting peace education in Kosovo; the World Court Project in New Zealand, which has launched an international campaign against nuclear armament; and an Israeli language school, Ulpan Akiva Netanya, which is helping to promote mutual understanding by its work in teaching Hebrew and Arabic. ■

Children's books

Children are being told the facts of life by a new wave of authors, but there's still plenty of room for Prince Charming, fairies and witches.

For years children's literature was the Cinderella of literature, languishing in the shadow of a cantankerous stepmother. Today the maiden is ready to go to the ball. Didacticism and and moralizing are fading away into the past and writing for children is becoming an art-form in its own right, a genre whose borders now stretch far beyond the classroom, the library or the nursery. Book production for young people has also become an industry which is attracting more and more attention in the shape of conferences, prizes, book fairs and university theses all over the world.

"A children's book isn't a schoolbook any longer," says Leena Maissen, head of the Swiss-based International Board on Books for Young People (IBBY), whose offices in 60 countries are trying to make more literature and art available to the world's children.

"Books for children are certainly valuable teaching aids, and they're especially useful for giving children a taste for reading. But new trends are coming in. Taboos are being broken, children are being taken seriously and being treated like real people, and long-avoided subjects are being tackled."

Fairy stories still have a place, of course. Children still dream about witches, bears, princesses and elves, but in a different way. Colombian writer Gloria Cecilia Díaz says that in children's books these days, "the world isn't always seen through rose-coloured spectacles. For many people, talking to children meant using diminutives, talking about little houses and little girls,and avoiding subjects like disease, violence and death."

Manuel Peña Muñoz, a Chilean author of children's books, agrees. "Some teachers think they've covered children's literature once they've told the story of Snow White and the Seven Dwarfs," she says. "What's more, some authors simply tell stories about princesses and gnomes,add a bit of moral icing to the cake, and that's it. But that's not enough,these days."

The illustrator's magic wand

A number of recent books have reworked subjects, forms and narrative techniques. Today's children read stories about divorce, death, drugs, air pollution, political extremism, violence and racism. And all kinds of books are being published which rely on the magic wand of the illustrator or cartoonist.

Before they know how to read, babies can play with books made of fabric or books made to take in the bath. Later on, they are given picture books that may be cubical or triangular, outsized or miniature, possibly bilingual. They also like work-books which come with watercolours and paintbrushes, and comic books crammed with detail where they have to spot a figure hidden among thousands of others.

Not that the traditional children's book is being sidelined. There are still storybooks where the pages pop up when they are opened, to make a forest or a castle. Among the latest ideas are interactive stories where readers choose the plot or ending they want, and books on CD-Rom, which are very popular in rich industrialized countries.

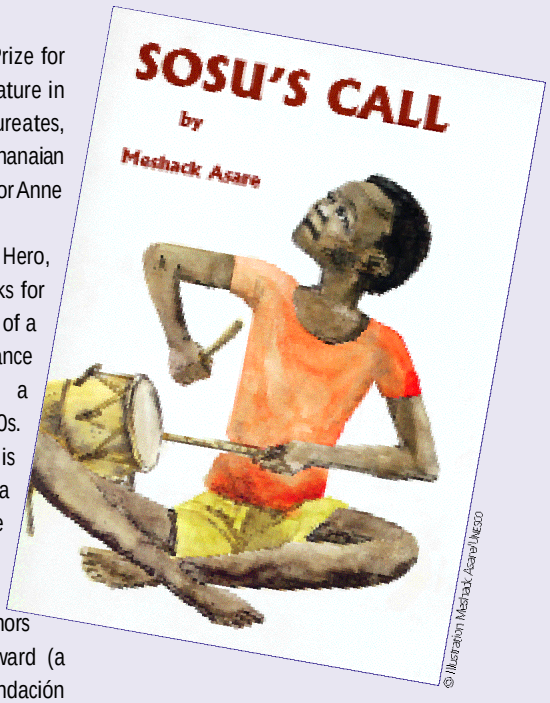
The public has enthusiastically greeted the wealth of ingenuity displayed by publishers. "Previously, giving a child a book was almost seen as an insult," says

Tolerance told to children

Every two years UNESCO awards a Prize for Children's and Young People's Literature in the Service of Tolerance. The 1999 laureates, selected by an international jury, are the Ghanaian writer Meshack Asare and American author Anne R.Blakeslee, who died recently.

Blakeslee's novel A Different Kind of Hero, which came top in the category of books for young people aged 13 to 18,is the story of a boy who teaches his father to show tolerance towards "foreigners" who arrive in a Colorado mining camp in the 1880s. Meshack Asare's Sosu's Call, which is illustrated by the author, tells how a disabled boy wins the respect of everyone in his village by saving it from flooding.

The prizewinning works, which were chosen from more than 300 books by authors from 42 countries will receive the award (a diploma and $8,000 donated by the Fundación Santa María/Ediciones S.M. of Spain) at a ceremony which will be held in April during the Bologna Children's Book Fair (Italy). ■



Sosu's Call, written and illustrated by Meshack Asare, is published in Ghana by Sub-Saharan Publishers.
A Different Kind of Hero, by Anne R.Blakeslee, is published in the United States by Marshall Cavendish.

come of age

© Illustration Dania Labrosse /La courte échelle, Montreal

Canadian author Marie-France Hébert. Her books, published by the French-language Quebec publisher La Courte Échelle, sell like hot cakes, in hundreds of thousands of copies. "There's a real appetite for reading these days and I try to get across to children the passion for reading which is food for the mind and the heart, like a medicine or a vitamin."

Updating traditional tales

Robert hates maths—he can't make head or tail of it. But one night he dreams of meeting a sharp-tongued little goblin who promises to teach him all about it. Of course, he thinks it's just another bad dream. But actually he's being taken on an exciting journey into the world of maths by *The Number Devil*, a book published in 1997 by the German poet and essayist Hans Magnus Enzensberger, one of a growing band of authors who are writing these days for children as well as adults.

Morocco's Tahar Ben Jelloun (*Racism Explained to My Daughter*), Spanish writers Fernando Savater (*A Father Addresses his Son on Questions of Ethics*) and Carmen Martín Gaite ("Little Red Riding Hood in Manhattan"), Chilean Luis Sepúlveda ("The Story of the Seagull and the Cat who Taught him to Fly") and Austria's Patrick Suskind have all updated traditional stories or tackled topics like racism and ecology.

The Cuban writer Joel Franz Rosell says this renewal of children's literature is partly because school programmes have been revamped to include modern works. "Publishers see an enormous market here and are very keen to profit from it," he says. "The thing about the market for children's books is that children don't buy the books themselves, someone else does—parents, teachers or librarians. The child doesn't know or care whether there's an author. Some researchers have even described children's literature as texts without authors. But parents are amazed by the fact that their children can read authors that they like too."

Some authors say they don't switch styles when they write for children. Others, such as Jasmine Dubé, from Quebec, say they write in a totally different way. "When I write for adults," she says, "I feel like I've got less spirit, that it's more cerebral, that I'm censoring myself more. I don't give such a free rein to my imagination and I'm less direct. I think other writers do it much better than me. But when I write for children, all my passion and urgency return."

'Some teachers think they've covered children's literature once they've told the story of Snow White and the Seven Dwarfs. What's more, some authors simply tell stories about princesses and gnomes, add a bit of moral icing to the cake, and that's it. But that's not enough, these days.

Children's literature is not developing at the same speed everywhere in the world. "In some places, like India, books are still written for children in a very traditional way and change is very slow in coming," says Maissen. Yet from India sprang the first-ever children's book more than 2,000 years ago—a collection of tales called the *Panchatranta*. The country, which has 18 official languages and more than 1,600 dialects, publishes books for children which mostly draw on tales, legends and heroic past eras.

The most daring publishers and authors are in Western Europe. In Eastern Europe, the new market economy leaves little room for quality books. "The Czechs, Slovaks and Russians used to be top of the league for children's books," says Maissen. "But the economic crisis has pushed their highly creative people into illustrating books published in the West."

© Illustration Miles Hyman/Editions Anne-Marie Métailié/Le Seuil, 1996, Paris

Between books and television

Books for children and teenagers have a healthy share of the market. Figures available at the 1998 Frankfurt Book Fair showed that 7.5 per cent of the 78,000 books published in Germany in 1997 were for children, a percentage which has remained steady over the past few years. In France, children's books have held up better than other titles in the publishing crisis which began in the early 1990s, and in 1997 represented 8.3 per cent of all sales. In Brazil, 31 per cent of books published in 1997 (including some schoolbooks) were written for children.

But such figures should not hide the fact that reading is competing with television, films and electronic media, whose audience is growing faster than book readership. A UNESCO-sponsored survey carried out in 1995 by Utrecht University, in The Netherlands, showed that in regions where there was electricity, 93 per cent of

schoolchildren spent an average of three hours a day in front of a television. Given a choice between a book and TV, most of them chose TV.

Building a youthful following

Publishers have risen to the challenge by bringing out written adaptations of the latest Disney film and telling the story of the sinking of the *Titanic* from all kinds of angles. Of course such products don't have a very long shelf-life, lasting only as long as it takes for the big transnational film companies to come up with another money-spinner. To survive such fads, publishers have to build up a loyal following among the reading public. "It's important to publish for different age groups, to respond to feedback from readers and keep them when they become adults," says Norma Sturniolo, editor of the Espacio Abierto series at the Spanish publisher Anaya.

The major children's classics, which are always being republished, seem to last forever. At the latest publishers' ball, Cinderella continues to whirl around with Jules Verne, Lewis Carroll, Mark Twain and Saint-Exupéry. Will she one day lose her glass slipper? Will she continue to enchant her readers whatever their age?

Gloria Cecilia Díaz voices what many of her colleagues think in private, that "one of the nicest things is that grown-ups read my books as well." ■

Lucía Iglesias Kuntz

Fairs and prizes galore

Just like books for adults, children's books have their own prizes, fairs and critics. The most important specialized body in this field is the International Board on Books for Young People (IBBY), which was founded in 1953. It promotes children's books, publishes a quarterly review *Bookbird*, draws up a biennial List of Honour of the world's best children's books, and every two years awards Hans Christian Andersen Prizes to an author and an illustrator. The prizes, which carry so much prestige in the world of children's literature that they have been called "little Nobel Prizes", have been won by such authors as Astrid Lindgren (Sweden, 1958) and Gianni Rodari (Italy, 1996). The 1998 winners were American writer Katherine Paterson and French illustrator Tomi Ungerer.

Authors and publishers of children's books also get together at major international gatherings. The Bologna (Italy) International Fair is to children's literature what the Frankfurt Book Fair (held annually in October) is to books for adults. This year's Bologna Fair, to be held from 1 to 8 April, is expected to attract 1,400 exhibitors from 80 countries and some 20,000 visitors. In addition to the Bologna Fair, there are specialized fairs at Montreuil, on the outskirts of Paris, and at Mexico City and Nairobi.

In Spain, the Salamanca-based Fundación Germán Sánchez Ruipérez is an International Centre for Children's and Young People's Books which sponsors seminars and studies. At California State University San Marcos Professor Isabel Schon runs a centre for the study of books in Spanish for children and adolescents.

The Book Bank in Venezuela,

© IBBY, Switzerland

Fundalectura in Colombia, Brazil's National Foundation for Children's and Young People's Books in Rio de Janeiro, and the Centre de Promotion du Livre de Jeunesse at Saint-Denis (France) are among other organizations that are trying to help children and books to become firm friends. ■

- **IBBY: http://www.ibby.org**
- **Fundación Germán Sánchez Ruipérez (Salamanca,Spain). Tel: 34 932 26 96 62**
- **Fundación para el Fomento de la Lectura (Bogotá,Colombia): email: fundalec@impsat.net.co**
- **Fundação Nacional do Livro Infantil e Juvenil: Rua da Imprensa 16,salas 1212 a 1215, Rio de Janeiro - RJ - 20030-120 Brazil. Tel:55 21 2620130**
- **Centre de Promotion du Livre de Jeunesse Seine Saint-Denis: 3 rue François Debergue 93100,Montreuil,France**
- **Banco del Libro (Caracas, Venezuela): email:blibro@reacciun.ve**
- **Center for the Study of Books in Spanish for Children and Adolescents: California State University, San Marcos San Marcos, California 92096-0001 Tel:1 760 750 40 70**

Rock art: **a call** for co-operation

In co-operation with UNESCO's International Council for Philosophy and Humanistic Studies, the Camuno centre of historical studies at Valcamonica (Italy) has launched a three-year project to list the world's most important sites of rock art.

The World Archives of Rock Art (WARA) project, which has a $60,000 budget, involves updating and monitoring data from some 70 countries. A CD-Rom and a world atlas containing a selection of 150 sites are also planned.

Chosen for their aesthetic value and historical or ethnological interest, the sites are spread out over eight geographical areas: Asia, the Near East, northern Africa, southern Africa, Europe, North America, Central and South America, and Oceania. Each site will be presented by a description (including location, type, features, date, state of preservation and the state of research), photographs, drawings and a bibliography.

WARA follows up on an earlier world report on rock art, the first of its kind, which was submitted to UNESCO in 1982. The project is open to specialists and institutions from any country wishing to participate.

The Valacamonica centre is also offering three-month internships on prehistoric and tribal art at which students and scholars can acquire hands-on experience in research, the management of cultural property, public relations, the organization of exhibitions and symposia, translation and publishing. ■

For further information contact:
Centro camuno di studi preistorici,
25044 Capo di Ponte
(BS) Italia.
Tel: 39-364 42 091.
Fax: 39-364 42 572.

The press takes to the **street**

There are discordant voices in the new international movement to produce street newspapers in aid of the homeless

"It was either that or I was finished," says Chantal. "That" means selling street newspapers. Chantal is 41 and has "a lot to get off her chest". Her story is that of a strict French upbringing, dropping out of school and plans thwarted by her parents. "I was crazy about wild animals and horses," she says. "I always wanted to train animals. And now look at me. . . ."

Chantal had a breakdown in 1996 after failing an exam to become a nursing assistant. "I wanted to kill myself," she says. "But one day I met an old friend and poured my heart out to her. She brought me to my senses and advised me to sell street newspapers."

Since then, Chantal has been selling *L'Itinérant* to travellers on the Paris underground. She buys her copies for the equivalent of 50 US cents each and re-sells them for three times that, making between $350 and $700 a month. This supplements the minimum assistance benefit of about $430 that she gets from the state.

In Stockholm, a 120-strong sales force

Thousands of marginalized people like Chantal live from selling street newspapers in the big cities of rich countries. But unlike Chantal, who rents a small room, most of them are homeless.

There are about three million homeless people in the countries of the European Union, and three million more in the United States. Many drink or take drugs. In Stockholm, 40 per cent of them are afflicted with paranoia, schizophrenia, or phobias, says Malin Speace, who runs Sweden's only street paper, the monthly *Situation Sthlm*, which started publication in 1995. The paper prints 15,000 copies and employs 120 of the city's 5,000 or so homeless.

"Selling the paper keeps them occupied during the day," says Speace. "We actually steal their time, to keep their minds off drugs." The paper is also a halfway house between "exclusion" and belonging to society. Two experts help the vendors through the maze of social services, which include projects run by non-governmental organizations, state aid and detox programmes.

The social usefulness of *Situation Sthlm* seems undeniable. At the very least, it helps the homeless and the unemployed to be less cut off. At best, it helps them to find somewhere to live, some training or a job.

For the past decade, street newspapers and magazines have gone from strength to strength. The first one, *Street News*, surfaced in New York in 1989, recalls Tim Harris, president of the National Association of North American Street Newspapers. The paper, which depended heavily on corporate donations, was founded by rock musician Hutchinson Persons, and had "somewhat right-wing libertarian politics," says Harris.

The movement then spread across North America and to Europe, and is now growing everywhere except in France, where street papers have faded after getting off to a brisk start in 1993.

Elsewhere, there are over 150 in a score of countries, mostly focusing on social issues and funded by a mix of private donations, advertising revenue, income from sales and public subsidies. Canada has a dozen and the United States more than 40. The biggest ones in the US—*StreetWise* (Chicago), *Spare Change* (Boston) and *Real Change* (Seattle)—sell between 20,000 and 120,000 copies a month. But most are run on a shoestring, print about 20,000 copies each and barely manage to break even.

Tessa Swithinbank, international editor of the British street paper *The Big Issue*, counted 70 titles in Europe in 1997, half of them in Germany. As in North America, they vary from papers which print 3,000 copies a month to the nearly 300,000 sold each week by *The Big Issue*, which is now the third favourite paper of young Britons between the age of 15 and 24. It was founded in London in 1991 by a working-class Irishman and former Trotskyite, John Bird, with $50,000 from the natural cosmetic chain The Body Shop. Today, with an annual

▷

Clive Harold, a boyhood friend of Prince Charles, sells The Big Issue in the streets of London.

© Jeremy Selwyn/Sygma, Paris

turnover of more than $20 million, it has four regional editions in Britain and three abroad—in Australia, South Africa and the United States.

Speace says street papers are even starting to spread to countries of the South. *NOS* was launched in Brasilia at the end of last year. Homeless young people in Gambia sell tourists a paper called *Concern*. Plans for street newspapers are afoot in India and Japan. Worldwide, "about 30 million copies of street newspapers are probably sold every year and the number is growing all the time," says Mel Young, who runs the Scottish edition of *The Big Issue*. But, he says, "there is some disagreement within the movement."

Ethically correct

The main point of discord is over the purpose of street newspapers. Should they be the mouthpiece of militant community organizations or should they be profitable social enterprises? *The Big Issue* has chosen the second option. Bird thinks it is possible to be both profitable and "ethically correct". Indeed, putting out a quality publication, produced entirely by professionals, is essential for social effectiveness, he says. The paper highlights the two or three thousand homeless people who live by selling it and points up the services it offers, such as help with finding somewhere to live and getting training.

The Big Issue was created to be "a prosperous publication with considerable resources that would offer substantial resources to the less fortunate," says the Montreal street paper *L'Itinéraire*. Many North American street papers are much more critical. Most of them are run and edited by the homeless themselves and fight for the existence of this kind of media voice in a country where it is rare.

They criticize the eye-catching presentation, the management style and the "commercial" content of the British paper and accuse it of trying to set itself up as the norm. The arrival of *The Big Issue* in Los Angeles last April has fuelled the debate, especially as it threatens to kill off the street paper *Making Change*, based in nearby Santa Monica.

"We're very vulnerable," says Jennifer Waggonner, who runs *Making Change*. "We only have 20 vendors and our receipts barely cover printing costs." But Waggonner, herself a homeless person, has a business sense to match the competition and is negotiating with the rival paper for technical help and for exclusive rights to sell the two papers in the western Los Angeles area.

Harris is careful not to take sides in this turf war and in ideological disputes. "It all depends on your priorities," he says. "If they're political, you include the poor in the process of producing the paper and give them a voice. If you think money's more important, you turn out a commercial product and reinvest the profits to help the homeless."

Watchdogs for the homeless

Like Harris, many of those who run street newspapers have chosen a middle way. In St. Petersburg, for example, the fortnightly *Na Dnye* (in Russian, *The Lower Depths*, from the title of Maxim Gorky's play) tries to combine professionalism and political struggle. "To attract young readers and boost sales, which fell after the rouble was devalued, we carry news about trendy clubs, music and art," says its founder, Valery Sokolov.

The paper has a page for articles written by homeless people, and two-thirds of its space is taken up with social issues. "Last November, we exposed the fact that the police were expelling homeless people from the city," he says. "Every Tuesday and Thursday, they took groups of 20 or 30 about 40 km out of town and dumped them in the forest where the temperature was minus 18°C. We have asked for an inquiry into this." Between 2,000 and 4,000 of St. Petersburg's 50,000 homeless people die every year.

"With such dreadful things going on, our differences seem trivial," says Young. "We have to act in concert to attack abuses and set up a worldwide watchdog to defend the rights of the homeless." ■

Sophie Boukhari

Montreal's **netizen** news-vendors

The Quebec newspaper L'Itinéraire offers homeless people an e-mail address in a former hairdressing salon which has been turned into a cybercafé. It's an annexe of the Café sur la Rue (The Café on the Street), which has been open for the homeless and other needy people for more than a year. The vendors of the monthly L'Itinéraire—Canada's first newspaper for street people, which was launched in 1994 and focuses on social issues—go there for a cheap bowl of soup and to pick up their copies. The "camelots," as they are called, buy them for 65 cents each and sell them to the public for double that.

The Café sur la Rue opened its Internet annexe last October—a kind of high-tech office with a dozen computers. A few homeless people are quietly busy there but most of the customers are people from the neighbourhood or hard-up students. One is typing out his CV, others are playing games, replying to e-mail, taking part in an online discussion or looking for a job on the Web.

The place is nicely decorated. On its sandy-coloured walls are literary quotes such as "Greed starts where poverty ends" by the French writer Honoré de Balzac, and coloured drawings including a long blue wave breaking at eye-level.

"That's so you can surf the Net better," jokes Sébastien Langlais, who runs the project, which was set up entirely with donations—of time by decorators from Radio Canada, of computers by hardware firms and of free services such as an Internet link and setting up a website (http://itineraire.educ.infinit.net) by the cable distributor Videotron.

Fifty-four-year-old Lise has been on welfare for the past 25 years. "It does me good to come here," she says. "The day goes by more quickly." The computers scared her at first, but now she loves them. So much so that she comes every day to clean the place up and greet new customers. When her "volunteer job" allows her the time, she sends an e-mail to a friend or reconstructs the "puzzle" she has created in the computer around a photo of her daughter and granddaughter.

An Internet course for beginners

"The hardest people to attract in here are the homeless," says Langlais. New technology frightens them, even when free training is offered to the least educated among them. "Street people are not necessarily uneducated and uncultured," he says. "Despite their personal problems, they're interested in lots of things. They want to know what's going on, in politics or sport, for example."

At the Bonneau Reception Center, which serves hot meals, "they gave an Internet course for beginners," he says. "Since then, a Romanian guy has stopped by regularly to get news about his country from the Net. Another homeless person, who wasn't interested in anything, developed a passion for online newspapers."

The cybercafé's goal is the same as that of the newspaper, which gets some financial help from the government. It aims to demarginalize the poorest people, make them feel wanted, give them some training and some experience of voluntary or paid work, in the hope it will lead them back into society.

Some American psychologists say access to new technology can be a kind of do-it-yourself therapy for people who are depressed and can help them to regain their self-confidence. The cybercafé also helps to build in street people and the unemployed a "sense of belonging" to the "big family" of L'Itinéraire, says the paper's editor, Alain Demers.

But the river that divides this sheltered environment from the job market is still hard to cross. Only rarely does anyone really manage to cross the divide. ■

Anne Pélouas
in Montreal

Munich's **street** magazine

Germany's leading street monthly has become an established institution

© Harald Rumpf/BISS, Munich

Heinz Bonni (above) is a bit of a loudmouth. "I don't suffer fools gladly," he declares, "and I always say what I think." Sometimes he goes even further and uses his fists. A few months ago, he was up in court for assault. He got a two-year suspended prison sentence and a $240 fine. That's when he realized he could "count on *Biss*"—the paper paid his fine.

Biss is short for "Burger in sozialen Schwierigkeiten" ("Citizens in Difficulty"). It's also the name of Munich's monthly street magazine. The first publication of its kind in Germany, *Biss* was launched in 1993 by a group of radical journalists and militant evangelicals. Today, 460 homeless or once-homeless people have permits to sell the paper, which covers the social crisis and the problems of marginalized people. They can sell up to 600 papers a month without losing their social security payments.

Bonni, aged 60, is one of 110 vendors considered "regulars". After a string of mishaps and occupational difficulties, he lost his apartment, his job and finally his emotional stability. He is not your ideal homeless person, carefully saving money so as to get back into society. He smells of drink as he complains about the other vendors. But he's proud to be working for an "established" magazine, as he calls it. "Everyone's heard of *Biss*," he says.

It wasn't easy for *Biss* to get this far. At first, the team of volunteers was overwhelmed. Some people had their hand in the till, which was pretty empty anyway. The magazine was sinking when 50-year-old Hildegard Denninger, an accountant by training, took over in May 1994, reorganizing it and making better use of the sales revenue. Now *Biss* prints 40,000 copies of each issue, has about $150,000 in the kitty and gets subsidies from the city council and donations from elsewhere.

Things are going well—a bit too well, according to some people, who think social action should not get mixed up with commerce. The magazine, which is put together by professional journalists, is also criticized for not giving enough space to what homeless people themselves think. If they want to express their views, the homeless can join a weekly "writing workshop" and publish articles in a special section of the magazine.

"It would be naive to think that our vendors can turn out well-written and researched articles when most of the 'normal' population can't," says Denninger, who thinks there's no alternative to bringing out a quality product.

Loyal readers

"I get blamed for being only interested in money," she says. But how to survive without it? The homeless earn the equivalent of 80 US cents for each copy they sell and *Biss* helps them, among other things, to pay off any debts they have. It also gives them a bonus when they manage to get an apartment and supports them when they tangle with the law. The magazine has also been able to formally hire its six best vendors—those who sell more than 1,200 copies a month.

Some readers and even some vendors complain that the magazine devotes too much space to foreigners in difficulty when there are so many "real" German homeless. But the readership is pretty loyal. The magazine became well known partly thanks to a big publicity campaign in 1996 donated by a leading Munich advertising agency. It involved showing top footballer Jürgen Klinsmann and the city's mayor, Christian Ude, both disguised as homeless vendors.

Everyone seems to get something out of it. But, as Denninger admits, the magazine only enables a tiny minority of the homeless to find a job and really get a foothold in society. ■

Kathrin Sander in Munich

Films **beamed** from the sky

Shall we soon be able to go to cinemas where reels of film won't be needed? Computer technology is advancing so rapidly that the day when films can be projected by satellite to the remotest corner of the planet is fast approaching.

This prospect is creating a panic in the laboratories which turn out copies of films, and most of all among the big international distributing companies. But it delights film fans in isolated areas and in small towns where the local cinema has closed down.

The idea is simple. The film is scanned, and then compressed and encrypted with its sound track before being transmitted by satellite or digital phone line. At the other end, a "satellite modem", a decoder and a special projector are needed and the film can be shown anywhere—in a barn, say, or a village square. No more lugging around reels or damaging film in transit.

The new technique was first publicly tested in 1996 by a Hollywood firm before it was really ready. Since then, there have been many try-outs. The most successful results seem to have been obtained at the Babelsberg studios in Germany, supervised by the famous film-maker Volker Schlöndorff. The European Union is supporting his project, CyberCinema, in a bid to recapture a public which has lost interest in films with the closure of local cinemas and to counter American domination of international film distribution.

At the end of last year, CyberCinema stepped up its demonstrations of the new technique by showing films for children in Dublin, Warsaw, San Remo, Liverpool, Hanover and Ivalo (in Lapland). The promoters reckon they need 500 projection sites in order to make a profit. By the year 2000, they hope to have 200.

Two problems will have to be sorted out before then. The quality of the digital image is not yet quite as good as that of a standard 35 mm film, and a digital projector alone costs $200,000. So maybe the good old reel of film still has a few years of life in it yet. ■

James Tobin: reining in the **markets**

In an age of globalized markets and deregulation an American Nobel prize-winning economist champions a tax on short-term financial transactions to head off international crises and help poor countries

You once said that the study of economics offers hope, and that improved understanding of our economies can better the lot of humanity. Do you feel economists have been able to improve the situation of all humanity, or have they helped some people more than others?

I think some economists have helped some persons more than others. That's quite likely. But yes, I think on the whole economists have improved the lot of humanity, though we haven't done it as well as I might have hoped.

I began studying economics during the Great Depression. There was 25 per cent unemployment in the United States, in France probably 15 to 20 per cent, and complete disorder. The international political scene was certainly affected by the failure of the world economy. The rise of Hitler was directly related to the Great Depression in Germany.

Anybody who went to college who had his eyes open and read the newspapers in the 1930s had the right to be concerned about the economic situation, and the right to believe that failure of the world economy had a lot to do with the many threats to the peace of the world, to fascism, nazism and communism. To the extent that we learned in the Great Depression how to keep from having great depressions anymore we have reduced the likelihood that things like that would happen again. We figured out why there was a depression, and we figured out what kind of monetary and fiscal policies we could use as a remedy.

It seems that economists have generally concentrated on the production of wealth, and less on its distribution. According to international organizations like the United Nations Development Programme (UNDP), inequality is increasing within countries and between countries. That's why one might argue that economists have concentrated on the production of wealth, and less on distribution.

I don't think that's a fair charge against my profession. Actually, consider the whole welfare state that you have in France and throughout Europe—economists have had a lot to do with bringing it about and organizing it. We didn't have those things when I was younger. Social security didn't begin in the United States until 1936 during the depression. We didn't have publicly supported health care until after the war. A lot of those things have come with the help and the advocacy of economists.

Why does inequality keep increasing at the national and international levels?

That's a really complicated question. I don't have any single answer. We ought to be spending a lot of our energy, our emotion, and our intelligence to find ways of reducing inequality both within countries and between countries.

It hasn't been ignored by economists. The World Bank, for example, was founded in 1945 for that purpose. The reduction of inequality requires that people who have earned higher incomes in markets be taxed in order to improve the standards of living of the people who have been less fortunate, who earned less in markets. Among the major preoccupations of economic policy, social policy and politics is the level of taxation and the degree to which governments transfer your earnings into the hands of people who are less fortunate. Taxation and transfer programmes are a big political issue.

You ask: why don't democracies succeed in making more transfers of income and wealth from the fortunate people who earn a lot to the less fortunate people who earn much less? And then the same thing is true on a bigger scale between nations, between people in one part of the world and people in another. I suppose if you really wanted to reduce inequality across the whole world you would try to get rid of all immigration barriers, so that people could move wherever they want to, to get jobs and higher wages. That would certainly be an immense political problem.

© Michael Marsland, Yale University, New Haven

James Tobin

Since 1971 you have been saying that states need to have at least a minimum amount of control over their national monetary policy. With globalization, have states lost control over monetary policy?

It is true that the globalization of financial markets has diminished the control that states have over their own monetary policies. There always has been a constraint on monetary policy ever since we started having some liberalization of monetary regulations back in the Bretton Woods system beginning in 1945. But that has gone on much more rapidly in the last few years, and it does limit particularly the power of small countries like those in East Asia to run their own monetary policies.

Given financial globalization, how can states preserve their monetary autonomy?

Well, they have to have some ways to slow down the inflow and outflow of foreign currency and to make the convertibility of their own currencies into foreign currency less damaging to the country as a whole.

Consider for example what happened in East Asian countries, where some of the banks—the banks in Korea for example—borrowed from New York, Tokyo and London banks. They borrowed very short-term, one week or two weeks, so that the lenders, the big banks in New York or Tokyo or London could decide every week or two whether to renew the loan. The commercial bank in Korea, for example, has to pay back the New York bank in dollars. How is it going to get the dollars? It is going to take some Korean won, the local currency, to the Korean central bank and say "you promised to give us so many dollars per won. Here is my won and I want whatever you have promised to give for won." So the hard currency reserves of the country in the hands of the central bank then evaporate as the banks pay back their loans. That's where the reserves go, and if reserves vanish like that then the currency will have to be devalued. That's what happened in 1998.

If, for example, Korea had had a law which said banks are not allowed to have short-term hard currency debts that are uncovered by corresponding short-term assets, then the central bank would be protecting itself. If they were to have interfered, to that degree, with complete globalization of the Korean banking system and the Korean money market, it would have been a very good thing.

There are a number of ways in which those countries can protect themselves. A transaction tax is one method.

That brings us to the so-called Tobin tax. Could you briefly explain to us what it is and how it would work?

There are 1.3 trillion dollars a day in foreign exchange transactions. Those transactions would be taxed, at a very low rate, something like one tenth of one per cent per dollar per transaction. The taxes would be levied by each country on transactions that originate in the country, and collected by the usual tax authority of that country.

If people are involved in making a lot of transactions every day, every week, they would have to pay the tax a lot of times. So they are discouraged from doing that just by the existence of the tax.

Would the world look different today if your tax had been in place since the 1970s? Would Asia have had the tremendous growth that we saw, which was partly fuelled by investments and capital flows? Would we also have had an Asian financial crisis, if the tax had been in place earlier?

Of the 1.3 trillion dollars in transactions per day, very few have to deal with the movement of productive capital from the savings of one country into the investment of another country. Developed countries nowadays move about 200 billion dollars a year into investment in developing countries. So most of the transactions that occur are not related directly to desirable movements of productive capital from developed to underdeveloped countries.

China doesn't have full convertibility, except of Chinese currency earned by foreigners in trade. You cannot convert Chinese currency into dollars or francs or yen just to move funds around. They have strict financial control very much like the controls that France had in 1945-46 right after the war. In fact, France had exchange controls of some kind until the middle of the 1980s. China receives a lot of direct investments from overseas without having convertibility of capital funds from one currency to another. It's not essential to have that.

Most of the investment from developed into underdeveloped countries wouldn't have been influenced significantly by the Tobin tax, by the exchange transaction tax. In fact, the advantage of that device is that it doesn't tax long-range investments appreciably at all. If you take a 20-year round trip by putting equity capital into an underdeveloped country, say from France into Viet Nam, and you don't take the money out for 20 years, you pay a tenth of a percent the first time and a tenth of a per cent coming back. That wouldn't influence your calculation about whether you want to make the investment. It's only the very short-term movements of currencies that would have been discouraged.

We ought to be spending a lot of our energy, our emotion, and our intelligence to find ways of reducing inequality both within countries and between countries

So would the so-called Tobin tax have actually prevented an Asian crisis?

Certainly you need other things as well. You need reforms in your own banking system and stock markets. The other big mistake, perhaps a bigger mistake than some of the things we have been discussing, is the practice of having a fixed exchange rate. You wouldn't have the currency crisis if you didn't have a fixed exchange rate. A fixed exchange rate is a promise by the central bank of the country to pay a fixed amount of dollars, yen, euros or a basket of several currencies. If the central bank doesn't have a reserve of hard currency, it has to default on this promise. It's like the failure of an ordinary bank. If depositors come and ask for cash for their deposits and the bank doesn't have them, then the

bank has to close and there is a crisis.

In the light of the Asian crisis, many of the countries in Asia feel that they have lost their power, that there has been a shift in the balance of power between the state and the free market. Do you think that view has any substance?

I think that they are right about that to a considerable degree. The financial markets being completely liberalized and in my view prematurely liberalized, leaves governments without the control or restrictions which they need to limit the speed and volume of movements of funds in and out of their currencies.

Do you think we will continue to have big financial crises. Are we learning from our mistakes?

Financial crises are not inevitable. I think we will probably learn from mistakes and we won't go back—at least in the case of these countries—to trying to defend a fixed rate of exchange, against dollars or yen, and that will certainly make crises less frequent.

The whole of history is peppered with international financial crises. I am not sure it's right that they are more frequent now. There are more people in advanced countries who have put money into countries where crises occurred. In particular,countries in Asia had grown very rapidly, almost miraculously, for two or three decades and had promoted themselves to higher echelons and higher places in the pecking order of countries and economies. They have a lot of the trappings of the modern European or American economy—stock markets, bond markets, money markets, all these things—and growing levels of wealth and income. They have much closer ties to financial enterprises overseas in major countries. So there was a bigger shock when they couldn't maintain their promises to pay dollars to banks in America and Japan.

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Tee-shirts captioned "former rich"have sold like hot cakes in Thailand.

Do you think is there any chance of the Tobin tax being implemented one day. In France there is a movement to promote it. Political figures agree with this tax when they are in opposition. But when they are in power they don't talk about the Tobin tax.

I am not optimistic about that. I don't think the financial community, including ministers of finance in major countries and the central banks of those countries, have any use for those taxes. They don't want it. Even if somebody else in the government may say good things about it as François Mitterrand did, it won't go through the

Economic liberalism with a **human face**

Nobel economics prize-winner James Tobin may be 80 years old but he is still hard at work. At Yale University, where he taught from 1950 to 1988, this tireless researcher and gifted popularizer has an office where he gives interviews and writes—so far he has published 16 books and more than 400 articles.

In the autobiographical note he wrote for the Nobel Foundation in 1981, he said that he studied economics and made it his career because it "was and is intellectually fascinating and challenging, particularly to someone with taste and talent for theoretical reasoning and quantitative analysis." It also offered the hope of bettering the lot of humankind. His family background—his mother was a social worker and his father an independent-minded journalist—also helped a lot to shape the direction of his life.

Born in Illinois, he lived through the Great Depression and what he called the "miserable failures of capitalist economies" which caused worldwide political and social disaster. The depression also "spelled crisis for economic orthodoxy"and "triggered a fertile period of scientific ferment and revolution in economic theory." It was during this time of ferment that Tobin,then an undergraduate at Harvard, discovered the theories of John Maynard Keynes in 1936.

As a supporter of economic liberalism with a human face, Tobin has ever since then defended the state's role in the economy and fiscal and budgetary adjustments. In the 1950s and 1960s, he led the resistance to the crusade for monetarism headed by another Nobel prize-winner for economics, Milton Friedman. Tobin firmly backed the Democratic Party and was an adviser to President John F. Kennedy in 1961-62. Twenty years later, he spoke out once more, this time against President Ronald Reagan's policies, which were largely inspired by Friedman's ideas.

Since the early 1970s, he has warned against the development of private speculation in money markets, which is undermining the independence of national monetary policies. To discourage these speculators, he proposed in 1972 an international tax on spot currency transactions. The Tobin tax, as it was dubbed, found enthusiastic supporters on the left, especially in Europe.

Tobin was awarded the Nobel prize in 1981 for his work on money supply and his mathematically formulated theory of the allocation by firms and households of their portfolios among different assets. Tobin's theories have influenced a whole generation of researchers and stimulated analysis of the balance of payments and economic growth. ■

A controversial tax

In order to avoid tumultuous financial and economic floods and droughts caused by increasingly mighty international capital flows for speculative purposes and to protect national policies from dictatorship by the market, in 1972 James Tobin proposed a worldwide foreign exchange transactions tax. In brief the idea is to levy a 0.1% to 0.5% on money exchanged from one currency to another.

Such a tax, the Nobel Prize-winner has insisted, would be punitive for short-term financial plays and would thus slow down speculative capital movements such as those that led to the surge and then collapse of Asian financial markets over the past decade. On the other hand, the "Tobin tax", according to its author, would not be high enough to deter commodity trade or long-term investments in productive enterprises.

Some analysts, however, feel that the Tobin tax would be impossible to administer because all countries would have to agree to it and such worldwide fiscal harmonization would be unprecedented. ■

finance ministry. They are not going to go for it, the International Monetary Fund (IMF) is not going to go for it.

People do not like to be taxed. They think it is an interference with the free market.

Hasn't there been a little bit of a shift in the way people think?

A little bit of a shift, realization, some recognition at the last big meetings of the IMF and the World Bank. Some recognition that maybe globalization, liberalization internationally has gone too fast, too far. But there's been no actual proposal as to how that would be remedied. At least they did express a little more openness to considering ways in which flows of funds now in different currencies could be moderated. I never heard them mention the tax. I did see only one mention, in which Mr Michel Camdessus, head of the IMF, said he saw no support for international taxation.

The financial markets being completely liberalized and in my view prematurely liberalized, leaves governments without the control or restrictions which they need to limit the speed and volume of movements of funds in and out of their currencies

Do you see there being some sort of attempt to regulate capital flows so as to help prevent the kind of crisis we have seen in Asia?

I don't think there is going to be any internationally co-ordinated policy. I do think that there is going to be more tolerance by the IMF and by the governments in North America and Europe of developing countries. In some of those cases I think there's probably not a big disagreement. For example, the banking systems of those countries were not ready to be part of international financial markets. They weren't ready because they didn't have the institutional and legal frameworks that we take for granted in our systems. Also, consider securities markets. In the United States we have had a federal agency, the Securities and Exchange Commission (SEC) since the 1930s. You can't sell stocks and bonds on the open market without registering complete information about it with the SEC. Yet many of our private financial firms helped set up exchanges in underdeveloped countries which ▷

A Thai woman sells her jewelry to raise some ready cash.

© Fabian/Gamma, Paris

didn't have these kinds of essential safeguards.

It would be very reasonable for a country like Thailand or Korea to regulate the amount of foreign currency debt held not only by the banks in their countries but also by the corporations in their countries. What you really want to do is to encourage your companies to attract equity investments, because they are not going to cause you to have a currency crisis.

In the context of financial crises, what is the role of institutions like the IMF and World Bank? What is your ideal of how they should operate? Are they adequate, alone, to address some of the issues like development and amelioration of situations where there is a financial crisis? Do we need other financial institutions, such as a World Central Bank?

I think the IMF could move in the direction of being a world central bank—which is more like what it was meant to be. That means that it would be prepared to provide international liquidity to countries getting into trouble without pretending that they are guilty of crimes and have to be punished as a price of the assistance. A central bank in a country which serves as a lender of last resort for banks in that country lends to them when they have liquidity problems without acting as though they committed a crime. They expect to be paid back shortly. We should see more of that spirit on the part of the IMF.

In fact, it was the original idea behind the IMF. All the countries had in the beginning rather generous drawing rights in the IMF which they could use without question. Now they are certainly not big enough because the total size of the quotas of all the countries together in the IMF is about 150 billion dollars, which is nothing for a worldwide institution that's supposed to do what they are supposed to do.

I think the World Bank is different. I am afraid in the last couple of years, the IMF has started taking over what was the World Bank responsibility. The IMF prescriptions for the countries in East Asia, whom they were presumably helping, included prescriptions for fundamental changes in institutions in the interest of reforming the long-run structure of those economies. But that was supposedly the mission of the World Bank, not of IMF.

Economists have made great strides over the last decades. But they were unable to predict something as great as the financial crisis in Asia. Why is that? Why, despite all these advances in economics, are economists unable to foresee or forecast these kinds of crises?

You can't predict financial markets. If you could predict them, then the process of acting on your prediction to get money, to get profits, removes the possibility of making money in them. They are matters of expectations and emotions, and they are not predictable really.

As for the general question of why can't economists predict things: that strikes me as really unfair. Meteorologists know a lot about weather but their predictions are not always accurate. Doctors know a lot about human disease but they are often surprised, often incapable of doing anything about it. So we are not alone in our failures.

Do you think that there has been generally a shift towards market mechanisms in education, science and culture. If so, has it been a good thing or not?

I think it's hard to make generalizations about that. I think it's true that there has been a movement against government regulation around the world. For example, privatization of government-owned enterprises. In many countries, a lot of that was not necessary, wasn't particularly desirable. I think we have in this country a lot of people, including one of our political parties, who are opposed to using government money for culture, who would like to transfer government money from public education into subsidizing private education, private schools. There has been a trend in that direction.

Do you think it's a good trend?

I think the spirit of it is not a good trend. In general it's selfish and short-sighted. ■

Interview by **Sophie Boukhari,**

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